

MANUFACTURERS' RECORD

A WEEKLY SOUTHERN INDUSTRIAL
RAILROAD AND FINANCIAL NEWSPAPER.

INCREASE OF COTTON SPINDLES.

[Boston Journal of Commerce.]

The high price of cotton since the last crop was harvested, and the dullness of the export trade during the same time, has had the effect of checking the building of new mills to quite an extent, and has given the croakers a chance to renew their cry, louder than ever before, "We have got cotton mills enough already." During this time we must say we cannot but admire the enterprise that has been shown by our Southern business men, who have gone right along forming companies and building mills to manufacture their cotton into goods, showing that they have confidence in the growth of our country and in the increase of our export trade. As we look carefully over the statistics showing the growth of our own country and the success that we have met with in trying to establish an export trade in cotton goods during the last ten years, we cannot but feel that we are in our infancy in the manufacture of cotton goods. At the present time we have a little rising of 23,000,000 spindles in this country engaged in the manufacture of cotton yarns and goods, about one-half of what England has engaged in the same line. Now, if one will take a map of England and one of the United States and compare the two countries he will soon come to the conclusion that instead of any industry which we have here having reached its limit, we have only made a beginning in that industry. * * * We, at the present time, raise fully 90 per cent. of the world's supply of cotton, and, practically speaking, we pay but little attention to what we might do toward the raising of cotton should the cotton-growing lands be developed as they might be. * * * With these great advantages which we possess, and a gain in our population in the time to come of at least 1,500,000 each year, how can a business calculation be made showing that 22,000,000 cotton spindles is all that we can use to advantage? This is not so, nor can any argument be brought forward that will make it appear so. We can safely increase this industry at the rate of 2,000,000 spindles per year and have no fear of an overproduction of cotton goods on our hands. Our export trade in this industry is bound to gain a large per cent. each year. With twenty-eight new ships that are now being built to ply between New York and Europe, is it to be supposed for a moment that some of them are not going to carry back cotton goods as well as wheat and iron? The fact is we can safely count on a very large export trade in cotton goods, and our Southern neighbors are making no mistake in putting their capital into cotton mills, and if the large amount of capital which is seeking investment in the North was turned into that direction it would, we believe, be profitably invested. We hope soon to see a revival of this industry, especially in New England, and see some large cotton mills projected and built, and, if well managed, the stockholders need have no fear but what they will receive liberal returns on their investment.

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VOL. XL.
No. 3.

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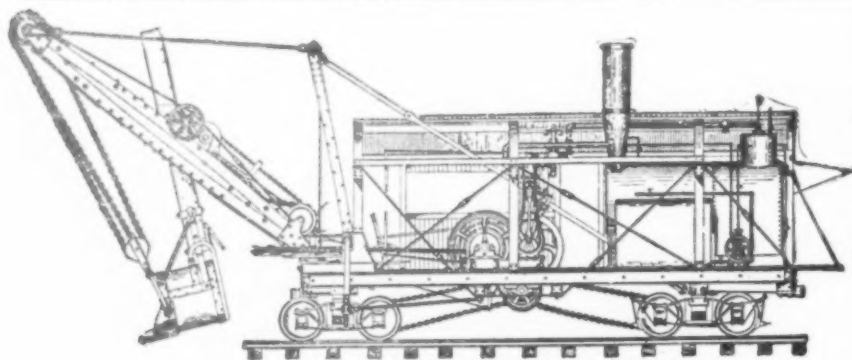
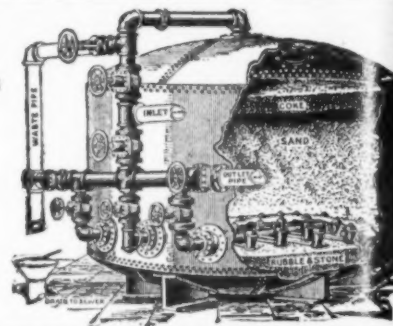
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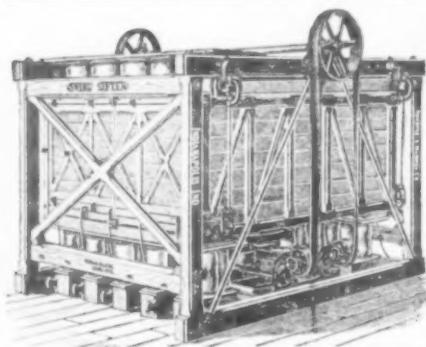
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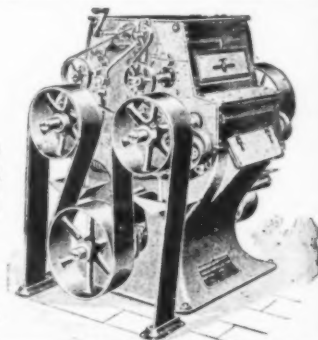
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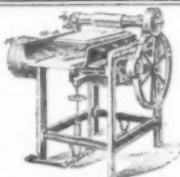


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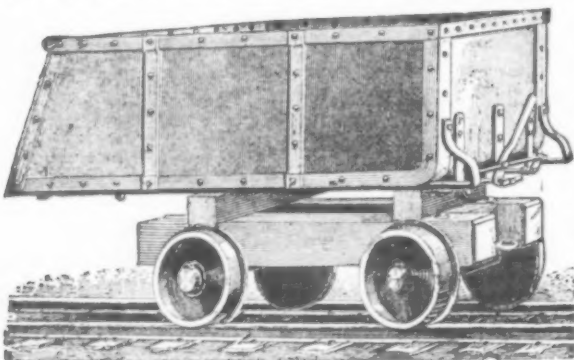
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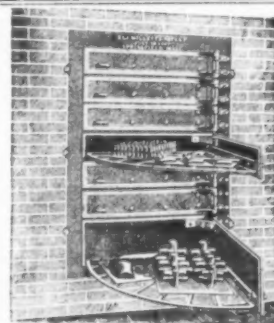
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Westinghouse Elec. & Mfg. Co., Pittsburgh, Pa.
Western Electrical Supply Co., St. Louis, Mo.

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General Incandescent Arc Light Co., New York, N. Y.
Gregory Electric Co., Chicago, Ill.
Guarantee Electric Co., Chicago, Ill.
Kentucky Electrical Co., Owensboro, Ky.
Smith, Samuel J. & Co., Charlotte, N. C.
Tower-Binford Elec. & Mfg. Co., Richmond, Va.

Electrical Supplies.
Alexander, Jr., S. B., Co., Charlotte, N. C.
Bunnell, J. H., & Co., New York, N. Y.
General Electric Co., Schenectady, N. Y.
Gregory Electric Co., Chicago, Ill.
Guarantee Electric Co., Chicago, Ill.
Jenks, W. H., Richmond, Va.
Johns Mfg. Co., H. W., New York, N. Y.
Kentucky Electrical Co., Owensboro, Ky.
Northern Electric Mfg. Co., Madison, Wis.
Smith, Samuel J. & Co., Charlotte, N. C.
Stanley Electric Mfg. Co., Pittsfield, Mass.
Sturtevant Co., B. F., Boston, Mass.
Triumph Electric Co., Cincinnati, O.
Western Electrical Supply Co., St. Louis, Mo.
Westinghouse Elec. & Mfg. Co., Pittsburgh, Pa.

Electric Locomotives. (See Locomotives.)

Electric Trucks.
Baldwin Locomotive Works, Philadelphia, Pa.

Electrotypers.
American Type Foundry Co., Baltimore, Md.
Spencer & Hall, Baltimore, Md.

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Albro-Clem Elevator Co., Philadelphia, Pa.
Aultman Co., The, Canton, O.
Bartlett, Hayward & Co., Baltimore, Md.
Bates, James, Sons, Baltimore, Md.
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Fairmount Machine Co., Philadelphia, Pa.
Faunt, Le Roy & Co., Baltimore, Md.
Link-Belt Engineering Co., Philadelphia, Pa.
Maryland Foundry & Machine Co., Baltimore, Md.
Morse, Williams & Co., Philadelphia, Pa.
Parkhurst Bros. & Co., Indianapolis, Ind.
Park Mfg. Co., Charlotte, N. C.
Spidel, J. G., Reading, Pa.
Union Elevator & Machine Co., Chicago, Ill.
Westbrooks, J. B., Fdry. & Mch. Co., Danville, Va.

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Caldwell, H. W., & Son Co., Chicago, Ill.
Clark Co., The W. J., Salem, O.
Dodge Mfg. Co., Mishawaka, Ind.
Jeffrey Mfg. Co., Columbus, O.
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Tate, Jones & Co., Pittsburg, Pa.

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Dow Wire Works Co., Louisville, Ky.
Dufur & Co., Baltimore, Md.
Ludlow-Saylor Wire Co., St. Louis, Mo.
Myers Mfg. Co., The Fred J., Hamilton, O.

Elevator Ropes. (See Wire Ropes.)

Emery.
Carborundum Co., The, Niagara Falls, N. Y.
Scranton Corundum & Emery Wheel Co., Scranton, Pa.
Tantle Co., The, Stroudsburg, Pa.

Emery Wheels. (See Grinding and Polishing Machinery.)

Engineers. (Electric, Consulting, Contracting Mechanical and Mining)
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Alcott, T. C., & Son, Mount Holly, N. J.
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Nicol, Raur & Foster, Mobile, Ala.
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Pratt Laboratory, N. F., Atlanta, Ga.
Robinson Contracting Co., Geo. A., Mobile, Ala.
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Thorburn Reid, New York, N. Y.
Virginia Bridge & Iron Co., Roanoke, Va.
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Witherow, Jas. P., Pittsburgh, Pa.

Engines.
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American Blower Co., Detroit, Mich.
Atlas Engine Works, Indianapolis, Ind.
Ball Engine Co., The, Erie, Pa.
Ball & Wood Co., New York, N. Y.
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Columbus Machine Co., Columbus, O.
Cornell Machine Co., Chicago, Ill.
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Olds Motor Works, Detroit, Mich.
Otto Gas Engine Works, Philadelphia, Pa.
Struthers, Wells & Co., Warren, Pa.
Westinghouse Machine Co., Pittsburgh, Pa.

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Aultman Co., The, Canton, O.

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Alpha-Photo Engraver Co., Baltimore, Md.
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Park Mfg. Co., Charlotte, N. C.
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Baeder, Adamson & Co., Philadelphia, Pa.

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Balderston, H., & Son, Baltimore, Md.
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Bealy, Chas. H., & Co., Chicago, Ill.
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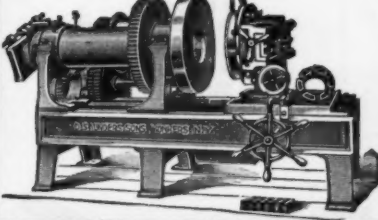
Filters. (Oil.)
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Burt Mfg. Co., The, Akron, O.
Flower, Walter L., & Co., St. Louis, Mo.
Textile Mill Supply Co., Charlotte, N. C.

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Johnson, J. & Co., New York, N. Y.
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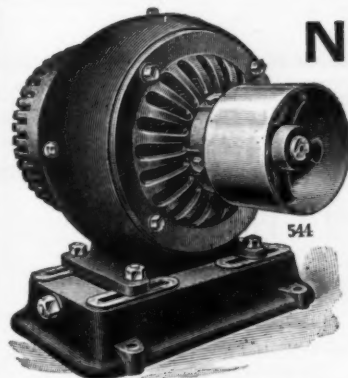
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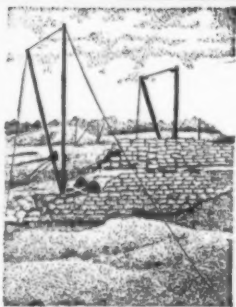
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Wilco Co., The T., Chicago, Ill.**Flour and Grist Mill Machinery and Supplies.**Alding Co., Inc., J. R., Brooklyn, N. Y.
Caldwell, H. W., & Son Co., Chicago, Ill.
Dehner-Wuerfel Mill Bldg. Co., St. Louis, Mo.
DeLoach Mill Mfg. Co., Atlanta, Ga.
Nordyke & Marmou Co., Indianapolis, Ind.
Salem Machine Works, Salem, Va.
Sprout, Waldron & Co., Muncy, Pa.
Starr, B. F., & Co., Baltimore, Md.
Wolf Co., Chambersburg, Pa.**Forges.**Boston Blower Co., Hyde Park, Mass.
Buffalo Forge Co., Buffalo, N. Y.
Crumlish Forge Co., Buffalo, N. Y.
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Hill & Griffith Co., Cincinnati, O.
Obernayer Co., S., Cincinnati, O.
Faxon Co., J. W., Philadelphia, Pa.**Foundry Ladles.** (See Foundry Equipment)**Food Evaporators.**

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Rockwell Engineering Co., New York.**Furnace Builders.**Erikson, Edw. E., Pittsburgh, Pa.
Kennedy, Walter, Pittsburgh, Pa.
Means & Fulton Iron Works, Birmingham, Ala.
Witherow, Jas. F., Pittsburgh, Pa.**Furnace Heating.** (Stoves.)

Richmond Stove Co., Norwich, Conn.

Furnaces. (Metallurgical.)

Beckwell Engineering Co., New York, N. Y.

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American Steam Gauge Co., Boston, Mass.

Crosby Steam Gauge & Valve Co., Boston, Mass.

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Jacobson Machine Manufacturing Co., Warren, Pa.

Gas Producers.

Erikson, Edw. E., Pittsburgh, Pa.

Smythe Co., The S. E., Pittsburgh, Pa.

Wood, R. D., & Co., Philadelphia, Pa.

Gas and Steam Filters' Tools.

Henders' Sons, D., Yonkers, N. Y.

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Boston Belting Co., Boston, Mass.

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Whitton Machine Co., D. E., New London, Conn.

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New Process Rawhide Co., Syracuse, N. Y.

Gearing.

American Machine & Foundry Co., Hanover, Pa.

Chester Steel Castings Co., Philadelphia, Pa.

Fairmount Machine Co., Philadelphia, Pa.

Jeffrey Mfg. Co., The, Columbus, O.

Link-Belt Engineering Co., Philadelphia, Pa.

Morse, Williams & Co., Philadelphia, Pa.

New Process Rawhide Co., Syracuse, N. Y.

Smith Co., S. Morgan, York, Pa.

Woods' Sons, T. B., Chambersburg, Pa.

Grates and Grate Bars.

Kelly Fdry. & Mch. Co., Goshen, Ind.

McClave, Brooks & Co., Scranton, Pa.

Grates. (Domestic.)

Burnam Grate Co., Huntsville, Ala.

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Aultman Co., The, Canton, O.

Caldwell, H. W., & Son Co., Chicago, Ill.

Clark Co., The W. J., Salem, O.

Dodge Mfg. Co., Mishawaka, Ind.

Jeffrey Mfg. Co., Columbus, O.

Link-Belt Engineering Co., Nictown, (Phila.) Pa.

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Cook's Sons, Adam, New York, N. Y.

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Abrasive Material Co., The, Philadelphia, Pa.

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Carborundum Co., The, Niagara Falls, N. Y.

Norton Emery Wheel Co., Worcester, Mass.

Scranton Corundum & Emery Wheel Co., Scranton, Pa.

Sturtevant Mill Co., Boston, Mass.

Taithe Co., The, Stroudsburg, Pa.

Vitrified Wheel Co., Westfield, Mass.

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Huther Bros., Rochester, N. Y.

Hammers. (Steam and Power.)

Dupont Mfg. Co., St. Johnsbury, Vt.

Robinson, J. M., & Co., Cincinnati, O.

Handle Mch. (See Woodworking Mch.)

Egan Co., The, Cincinnati, O.

Fay, J. A., & Co., Cincinnati, O.

Reed, B. M., York, Pa.

Trevor Mfg. Co., Lockport, N. Y.

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Covert Mfg. Co., West Troy, N. Y.

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Myers & Bro., F. E., Ashland, O.

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American Blower Co., Detroit, Mich.

Boston Blower Co., Hyde Park, Mass.

Downman Mfg. Co., Atlanta, Ga.

Exeter Machine Works, Exeter, N. H.

Monitor Steam Generator Mfg. Co., Baltimore, Md.

Peck-Hammond Co., The, Cincinnati, O.

Richmond Stove Works, Norwich, Conn.

Sturtevant Co., B. F., Boston, Mass.

Vapor Heating Co., York, Pa.

Warren Webster Co., Camden, N. J.

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Bunnell Machinery Co., Chicago, Ill.

Byers Machine Co., John F., Ravenna, O.

Carrill Machinery & Supply Co., Allegheny, Pa.

Case Manufacturing Co., The, Columbus, O.

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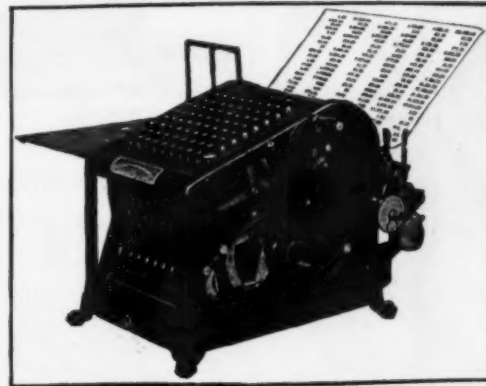
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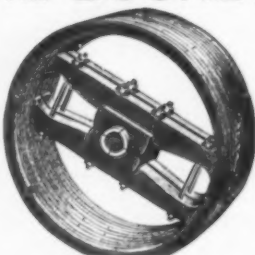
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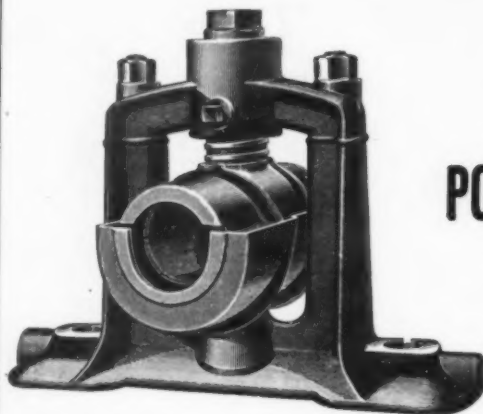


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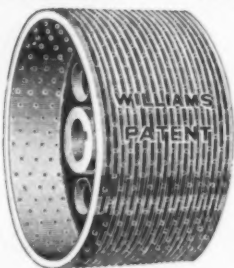
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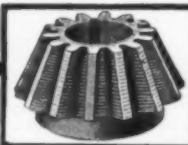
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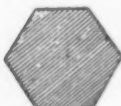
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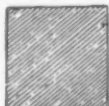
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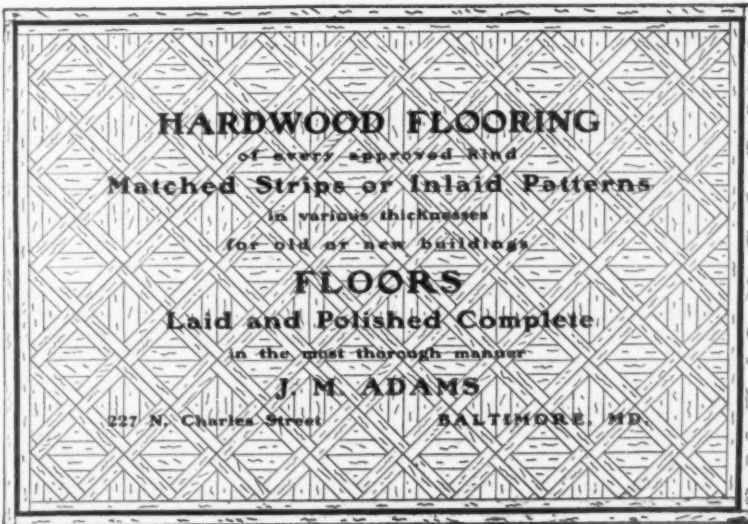
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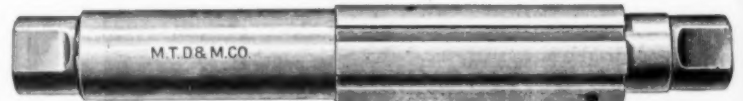
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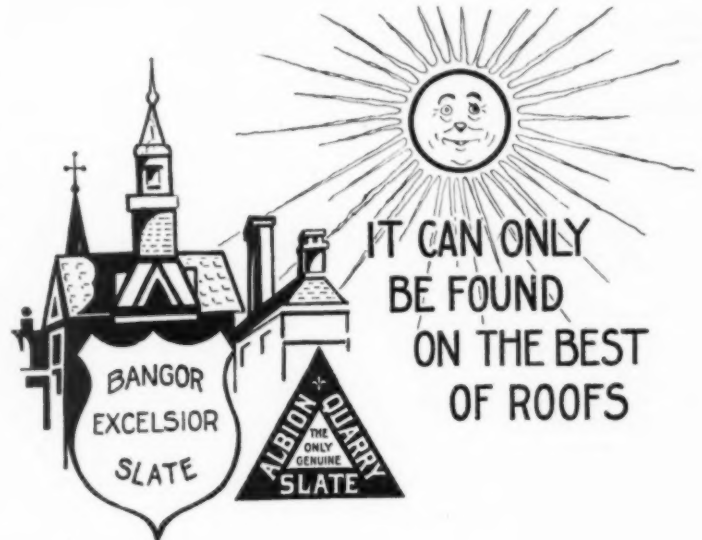
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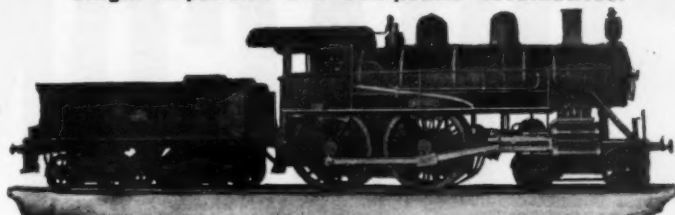
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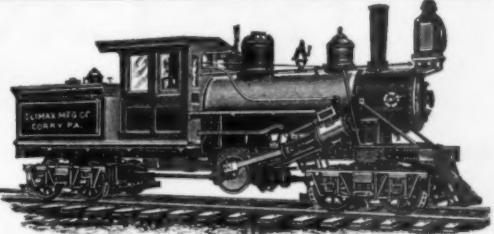
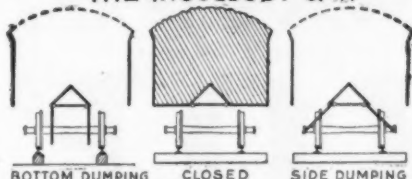
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Reily, Chas. H., & Co., Chicago, Ill.

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Spolier.

Hierls, Theo., & Son, St. Louis, Mo.

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Lykes, John D., Birmingham, Ala.

Stamp Mills.

Necklenburg Iron Works, Charlotte, N. C.

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Birmingham Boiler Works, Birmingham, Ala.

Harley Boiler Works, Montgomery, Ala.

Keeler Co., E., Williamsport, Pa.

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Schreiber L., & Sons Co., The, Cincinnati, O.

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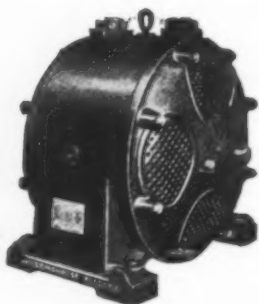
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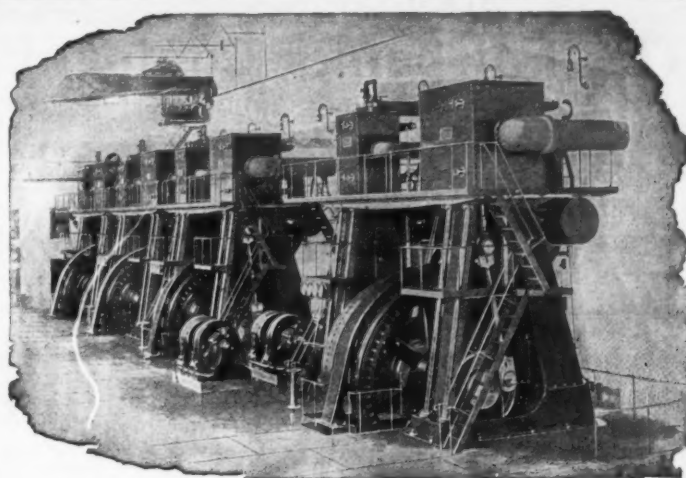
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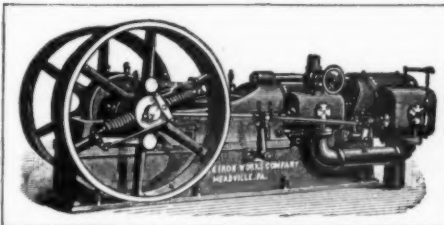
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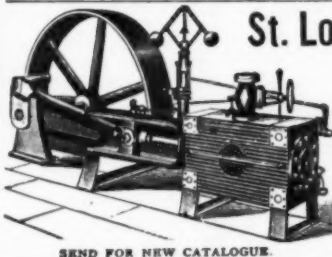
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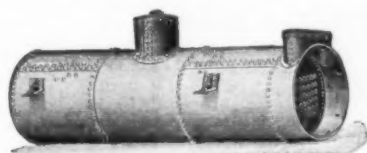
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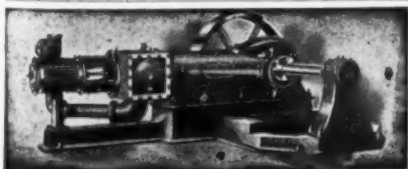
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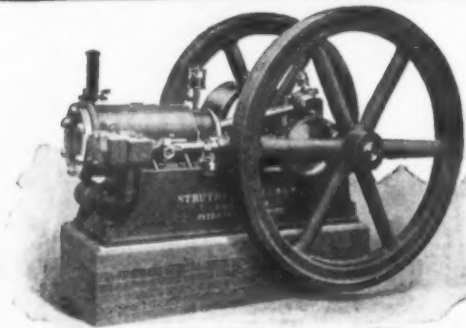
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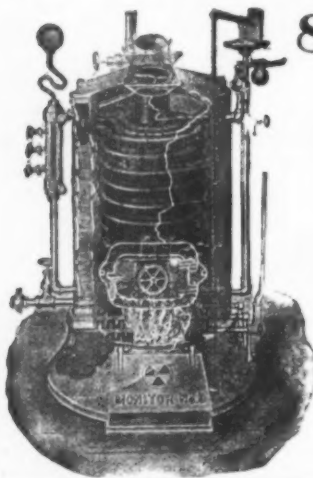
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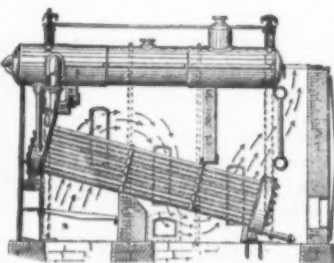
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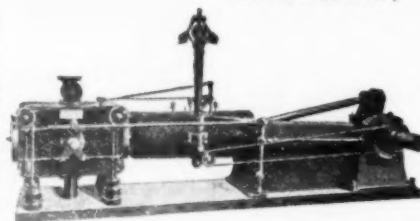
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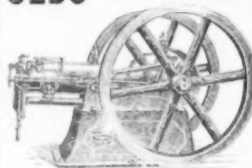


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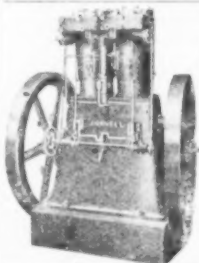


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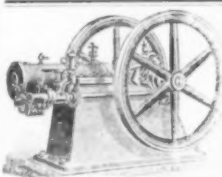
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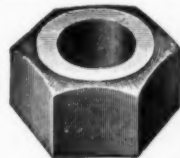
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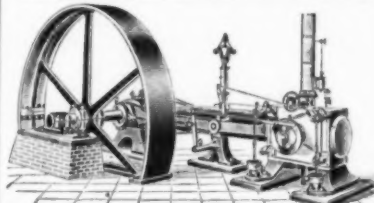
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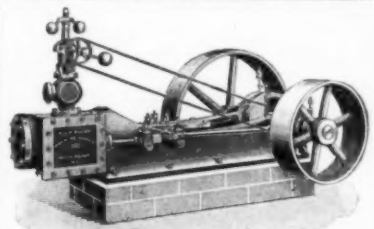


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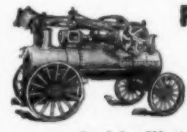
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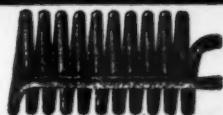


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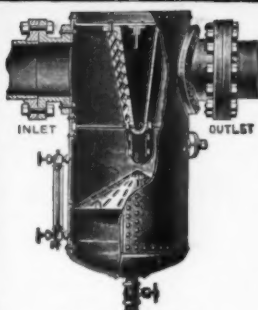


Fig. D, Horizontal.

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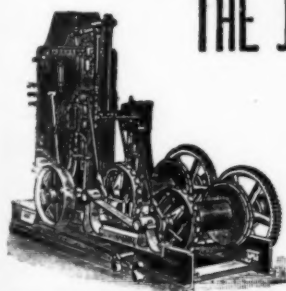
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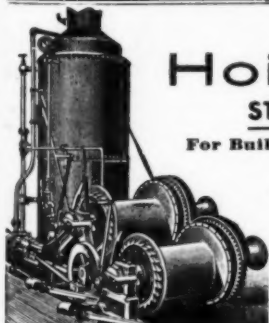
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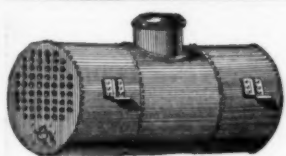


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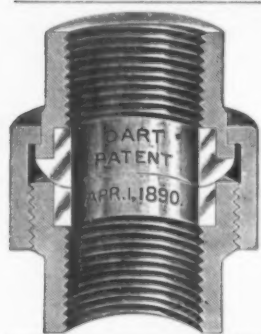
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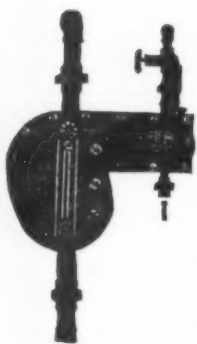
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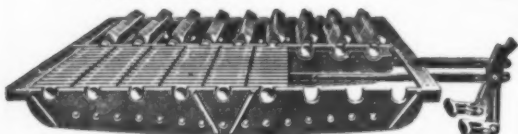
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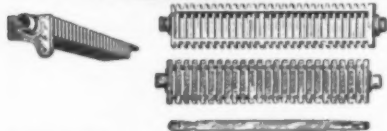
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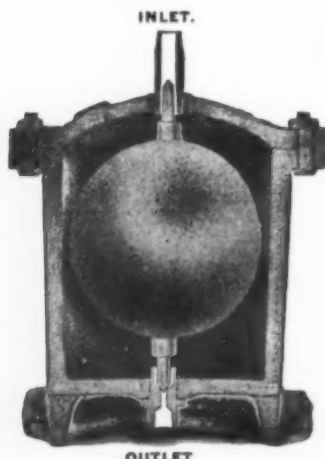
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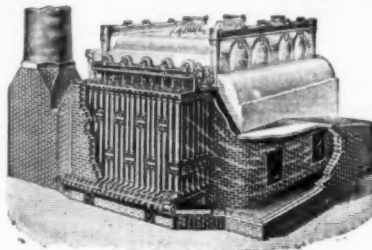
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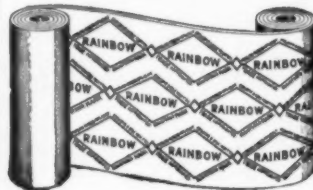
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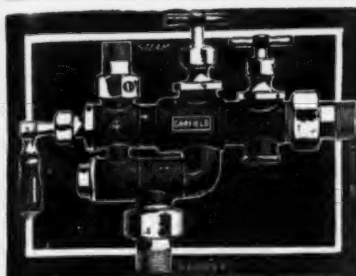
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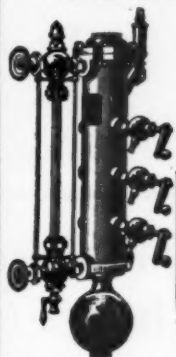
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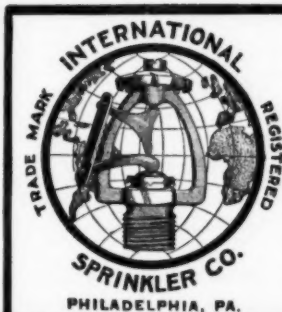
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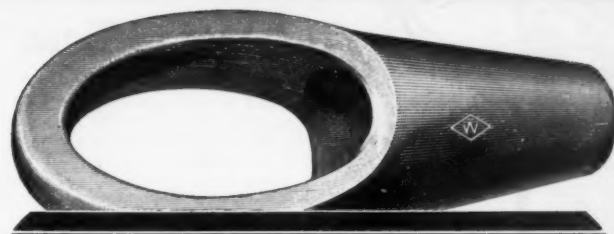
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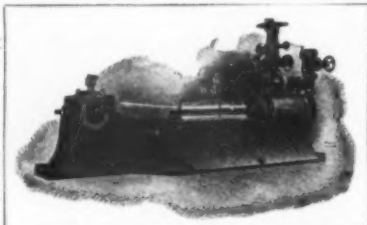
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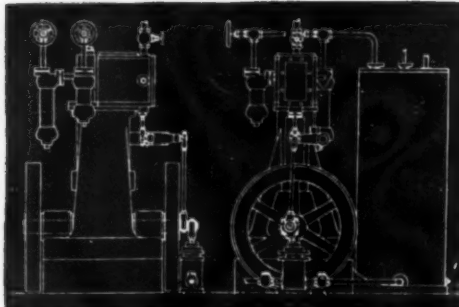
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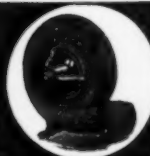
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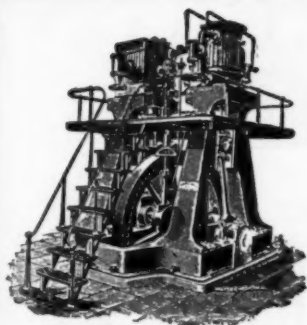


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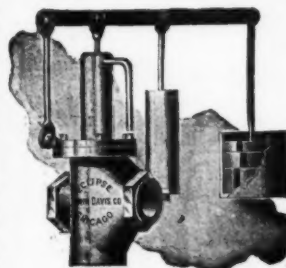
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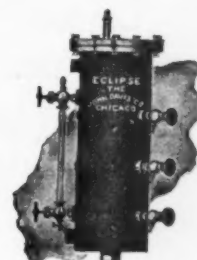
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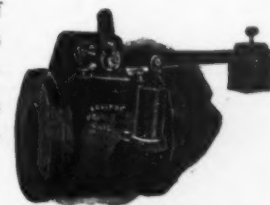
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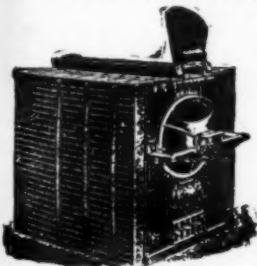
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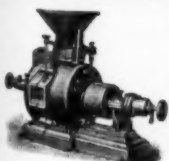


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Important Litigation Relating to Magnesia Covering Patents.

The **Keasbey & Mattison Co.**, the owners of the patents for magnesia covering, have commenced a suit in the United States Circuit Court for the Southern District of New York against the **Philip Carey Mfg. Co.**, **George D. Crabbs**, **J. E. Breese**, **Schoellkopf**, **Hartford & Hanna Co.**, **J. F. Schoellkopf, Jr.**, **James Hartford**, **W. W. Hanna**, **C. P. Hugo Schoellkopf** and **Jesse W. Starr** to restrain the defendants from making and selling magnesia covering for boilers and steam pipes containing more than 50 per cent. of magnesia, and especially coverings containing 85 per cent. of magnesia.

The bill prays for a preliminary writ of injunction, to be continued during the pendency of the suit, and upon the final determination thereof to be made perpetual, and also demands an accounting and damages.
All persons are respectfully requested to refrain from purchasing covering infringing these patents, as such purchasing must of necessity lead to suit.
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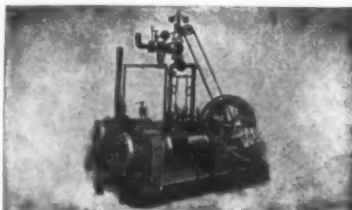
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VOL. XL. No. 3.
WEEKLY.

BALTIMORE, AUGUST 8, 1901.

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BALTIMORE, AUGUST 8, 1901.

COPY FOR ADVERTISEMENTS.

Advertising copy (changes or new advertisements) should reach us Saturday Morning to insure insertion in the issue of the following week.

For the first issue in the month we should receive copy by Friday Morning of the week preceding.

A Business President.

For President, Stuyvesant Fish.—The suggestion in those words, latent for many months in the minds of thoughtful men, is beginning to take public form. What Mr. Fish thinks of it is not known, but the longer it is considered the more attractive does it seem. In view of the fact that the leading old parties, whose names have lost their historic significance, are both at sea regarding the next presidential campaign, the suggestion of the nomination of Mr. Fish as a candidate of the business interests of the North, South, East and West seems a sound one. Mr. Fish is in closest touch and sympathy with the laboring men of the country, for he has been a leader in the movement to better the conditions of the thousands of men employed by the Illinois Central Railroad; he knows the needs of the farmers of the South and West as few others do, and he, too, is a leader in the great business interests of the country.

It would be well for the best interests of this country that the next President of the United States should be a man identified with none of the activities of either of the old parties during the past quarter of a century—one in the full flush and vigor of manhood, conversant with the great business interests of the country, and yet understanding the needs of the farmer and the laborer, broadminded enough to appreciate the changed relations of America with the rest of the world, and combining progressiveness and conservatism in the purpose to use his influence to develop those relations upon right lines.

Those who have studied the career of Mr. Fish feel that what he has already accomplished in activities touching a vast and important area warrants the belief that his call to a wider field as the official head of the nation would redound to the pre-eminent benefit of the United States. He is known best,

of course, as the president of the Illinois Central Railroad Co., but as the head of that great system, extending from Chicago in one direction to the great Northwest, and in another direction through the Mississippi valley to New Orleans, he has been brought in close touch with a vast diversity of influences in American development, and has an intimate knowledge of financial, manufacturing, agricultural and transportation undertakings, fitting him to take an intelligent and comprehensive view of the problems which we are now facing. He is a man not given to personal exploitation, but whenever the occasion has demanded he has not failed to express his opinion vigorously and to the point, and never without contributing something of value to public opinion. Recognized in the South and farther West as a direct agent in agricultural, industrial and commercial development, as much of a friend of the thousands of employees of his railroad system as of the masters of finance in the great cities of the country, and, above all, a thorough American, full of faith in his country and its people, he would make an ideal candidate.

Perhaps he would not consent to enter the political field even as a leader in a movement to divorce material interests from party politics. But the suggestion of his name certainly points to the plan of campaign which ought to be successful in 1904.

Good Roads Advancing.

Mecklenburg county, North Carolina, which has carried one of the banners for progressiveness in road-building, will have to look to its laurels if plans are carried out for Harris county, Texas, in which Houston is situated. The last legislature of the State qualified a bond issue of \$600,000 for improved roads voted by the people of the county nearly a year ago. The county has already forty-five miles of such roads, with thirteen more miles under contract, and proposals have been invited for furnishing the necessary material and constructing twenty-five miles more of them. By the time the proceeds of the issue of \$600,000 worth of bonds have been spent the county will be well equipped with highways, and will present another object-lesson for the whole South of the advantages to farmers and business men of such conveniences.

Capital for Cotton.

In correspondence from London to the New York Commercial Advertiser the suggestion is made, in view of the fact that cotton-growing in Egypt does not show the tendency to expand to be reasonably expected, that British and American capital and energy are needed in the Nile valley to develop its capabilities in this direction. Why should not that capital and energy be directed to the South, the region apparently selected by nature as the peculiar home of the cotton plant? The

possibilities of the South in this respect have by no means been exhausted. At present the cotton-producing area of this country is marketing annually from 10,000,000 to 12,000,000 bales. Experts like Dr. Charles W. Dabney believe that before that area could be fully occupied 100,000,000 bales could be raised. Though the great engineering undertakings in the Nile valley give promise of a wonderful agricultural development there through a control of the waters of the Nile, it has not been demonstrated that the kind of cotton in greatest demand by the world may be raised there. If it could be, it does not appear that American capital could do better there than right at home.

Scrap Piles No Terror.

Hon. Carroll D. Wright, discussing in the current issue of the World's Work the industrial advance of America, presents the following significant figures:

The number of manufacturing establishments in 1890 was 355,415. At the present time the census office has received the schedules of 653,000, but probably not more than 500,000 of these are for establishments comparable with those counted in 1890. Taking this calculation as fairly correct, however, there has been a gain in the ten years of nearly 150,000 establishments engaged in the manufacture of goods. The total value of products, including receipts from custom work and repairing, in 1890 was \$9,372,437,283. Basing an estimate on the increase in the number of establishments and the tabulations of States already completed, a most conservative figure for the value of all products in 1900 is \$15,000,000,000. The statistics of manufactured products show that the United States is easily in the supremacy relative to any country in the world. The commercial statistics are equally satisfactory. For the calendar year 1900 our exports of domestic products were greater than those of any other country, the total value for that year being \$1,453,013,659; Great Britain ranked next, with \$1,418,348,000, and Germany next, with \$1,050,611,000.

This is a magnificent statistical showing of results. If one would know the cause, he must look behind the great natural resources of the United States and behind the energy and alertness which characterize American workmen or workmen from abroad who readily assimilate the American spirit. The Statist of London points directly to the primary cause of recent American industrial progress in these words:

It is a matter of common knowledge that our manufacturers have not been alive to the necessity of improving their plant and reducing the cost of working. In only one direction has any great industry in this country recognized the drift of things. The great shipping companies undoubtedly have been a marked exception to the general rule. They have unintermittently been increasing the size of their vessels, the power of their engines, and, generally, the efficiency of their fleets. They have not hesitated to get rid of ships which a few years ago were marvels of speed and power and which yet were able to do excellent work. But newer types and more efficient had been introduced, and the great companies saw that if they were to hold their own they must be able to compete with the rest of the world. The quickness of the shipping companies to recognize in which direction they ought to move was due, no doubt, to the keen competition to which they were exposed, competition not only domestic, but also interna-

tional; whereas in the home market our people had assumed that nobody could compete with them, and therefore they grudged the expense of rejecting machinery which still was able to work fairly well, though it was rapidly becoming antiquated. If our manufacturers are to keep the position to which they have been accustomed they must change their policy. They must, like the great shipping companies and American manufacturers, make up their minds that, costly as it may be at the moment, in the long run it is the only profitable policy to keep abreast of the times and to have machinery of the very newest and most efficient type. It is machinery which differentiates our civilization from that of the ancients. In purely intellectual matters the ancients were at least our equals. But they had not machinery. And machinery will continue to transform and refashion our civilization and the whole structure of society. It is, then, to machinery we must look for holding our own. Of course, we require likewise the intelligence, enterprise and skill to use the machinery properly. But, putting that aside for the moment, the people who possess the very best machinery will take the lead in the industrial struggle.

Condensed, these words might read, "American manufacturers have not feared the 'scrap pile.'"

In almost every line of industry dependent upon machinery there has been a notable tendency, especially during the past ten or fifteen years, to discard without hesitation the old for the new. Iron rails have yielded to steel ones, machinery hardly adjusted to its work has been relentlessly cast aside because rapid improvements have given it a successful rival. Even while manufacturers have been equipping their establishments with up-to-date appliances they have seen better and more perfected machinery than theirs enter the market, and the remarkable progress made in the Southern cotton-manufacturing industry in comparison with that elsewhere must be attributed largely to the fact that Southern mills have had the advantage of possessing the most improved machinery. Whether they and other Southern industries shall maintain their pace depends upon their ability to stick to the policy adopted by other progressive American undertakings, and to send to the "scrap pile" the machinery or parts of machinery which, in this era of strenuous endeavor and invention, may, after a while, be operated only at a loss.

The Steel Strike.

In spite of the immensity of the interests possibly involved, the strike of certain employees of the United States Steel Corporation, now entering upon its fourth week, does not seem to have appealed strongly to any great number of the American people. There have, to be sure, been published a number of sensational statements about it, but notwithstanding the amount of space which many newspapers have felt obliged to devote to rumors and to reports of conferences, the affair has taken a sluggish gait, if not a retrograde one. Ordinarily a strike, such as that of coal miners, railroad men or machinists, is eagerly followed in all its details by a large proportion of the public, many of whom are directly in-

interested in the outcome, and many naturally sympathizing without question with demands for more wages or shorter hours until the demand is backed by lawless force, requiring the force of law to put an end to the strike. The apparent apathy of the public as to the present strike can be explained only in one way. At the beginning of the strike its leader announced that it was a strike for a principle, and, as far as the public has been informed, that principle is, not so much that an employer must give work to only a certain class of labor, but that men shall be barred from employment unless they belong to that certain class, whether they wish to or not. In other words, one form of organized labor is seeking to make organized capital a powerful agent in bolstering up its rival organization.

The whole thing is so utterly un-American that it is not surprising that few Americans are taking a lively interest in it. At the same time American labor, if it should read the testimony of English experience, in which the quintessence of labor organization culminated rather disastrously for both labor and capital in the great engineering strike, might begin to realize that perhaps the United States Steel Corporation, in resisting what seems to be the ultimate demand, that all its works must be unionized, is in reality contending for a great principle, the American right of private contract, and at the same time fighting a battle for the protection of American labor.

From a cold-blooded standpoint no country could wish for the success of the strike in the American steel trade more strenuously than England. England knows what such a strike means for an industrial nation in these days of sharp competition in the world's market, yet a leading English paper, the Iron and Coal Trades Review of London, has an editorial in its latest issue which should be carefully read by every intelligent wage-earner in this country. It says that British labor is more highly organized than that of any other country; that British workmen were the first to assert their right to combine for common purposes, and that that right has been more fully and frankly recognized in British legislation than in that of any other country. In spite of these British assertions and their recognition, the American workmen are thus pictured by the London paper:

They are independent, self-reliant, ingenious, enterprising and industrious far beyond anything to be met with in either Great Britain or Continental Europe. They command the higher wages to which their superiority entitles them. Nominally, American wages are the highest in the world paid on a large scale. Actually, however, they are probably the cheapest, because the American workman will generally get through a good deal more work in a given time than any of his rivals elsewhere. The American workman is greatly aided and encouraged by the unchallenged superiority of the mechanical appliances which his own genius and that of his countrymen has succeeded in devising and applying to almost all industrial operations. * * * But whatever the circumstances otherwise, it is always the aim of the workman to do his utmost to increase his—and, of course, the employer's—powers of production and to earn the highest wages that either his own physical capacity or the character and conditions of his employment will allow. * * * Needless to say, the economy in manufacturing processes due to the use of machinery is not limited to the United States. The same conditions apply, mutatis mutandis, to all other countries. But the differences are often very marked between the efficiency of the conditions under which the machinery is applied. In one case the workman is eager to utilize his improved machinery to its utmost capacity; in another he limits its speed or

its capacity as much as he possibly can. In one case the workman struggles to secure the highest wages that the machine will allow him to earn, based, of course, on his making the utmost use of its resources; in the other he will demand and struggle for the highest possible wages, irrespective of the use he has made of the machine, and often despite his having done his utmost to render its superiority abortive. Finally, in the case of the American workman, the better the worker the higher his earnings, whereas in the case of the British workman one man must not attempt to get better wages than another, so that all are reduced to the same dead level of mediocrity.

"The same dead level of mediocrity"—there is the prospect of high-wrought organization of labor. In that it differs from the result of high-wrought organization of employers, for the latter seeks ever to advance toward the best. The tendency of the former is inevitably towards putting the brakes upon superiority and sanding its track for the benefit of the mediocre. Will the lesson of England be lost upon American workmen?

SOUTHERN COPPER MINES.

Recent Developments in the Virgilina Belt.

In a letter to the Manufacturers' Record Mr. W. Howard Pannebaker of Virgilina, Va., writes:

"In your issue of April 18 there appeared an article by Mr. C. F. Z. Caracristi relative to the copper properties of the Virgilina belt. The article at the time of publication was severely criticised here on account of its seemingly extravagant nature. I myself was with the critics, even if I did furnish a small part of the data. While there are a few errors in the article with regard to the ownership of the various properties, etc., the deductions made from his observations and the predictions with regard to the future of the section are in a fair way to be verified. The older mines have not only held their own in the quality and quantity of production, but are today better than at the time of Mr. Caracristi's visit, while the new openings made upon virgin ground have by their results surprised those who from long experience were conceded to be the best judges.

"Since the publication of that report a complete mining plant has been installed at the High Hill mines, with a capacity unequalled in the district. The plant consists of boilers, hoists, compressor, air drills, pumps, tramways and tanks, while a recent addition is an endless belt conveyor picking table with a capacity for fifty pickers. This mine bids well to become a large producer. Work is being pushed steadily.

"At the Halifax Copper Co.'s shaft (known as the 'Wall' property) the developments of the past month are most satisfactory. Its No. 2 shaft, just started, makes a remarkable showing. A fine vein of high-grade ore was encountered almost at grass roots, and gives every promise of depth. To many this find came in the nature of a surprise, as it was not thought such a vein existed in that locality.

"At the Dorothy there has been placed steam hoisting machinery, and work is progressing rapidly. The ore body in this mine is increasing with depth, and the appearance of both plant and mine show good management. The quantity and quality of the product is good.

"The Blue Wing is now under new management, and from recent reports received is taking out good ore. I learn that as yet they have not put on a full force of men.

"The Holloway continues to make steady shipments to its own smelters in Norfolk, and the grade and quantity is

undiminished. This mine is the most prominent in the belt and the deepest, being over 510 feet. It has probably produced more ore than all the other mines put together. Operations have been steady from the first start.

"Considerable work is being done at the Morong mine, and hoisting engines have been installed at two of the shafts. The No. 1 shaft was entirely within the ore body all the way to a depth of 106 feet, at which place cross-cuts were driven each way to ascertain the width of the vein. So far as is known, the vein is thirty-five feet wide at that point. Both glance and bornite are being taken out.

"A full hoisting and air-drill plant is being installed at the Arringdale mine, but I understand all of it is not yet in operating order. Work is progressing.

"At the 'Sixty-Four' mine (Mr. Durgy's) considerable trouble has been experienced with the compressor, and the mines have been shut down for the necessary repairs. This is one of the most promising mines of the district, and the work done shows that those in charge are fully competent to handle the proposition. In this instance a vertical shaft was sunk (without regard to the dip of the vein) and cross-cuts made to the ore body at different points. While Mr. Durgy calls his work 'prospecting,' and no especial effort has been made to take out ore, the showing is most gratifying. Several cars have been shipped, with the result that while the ore runs high in copper, there is also a large volume in both gold and silver. So far as we know, this is the only mine in the district that shows such large amounts in the precious metals on smelter test.

"The Virgilina Telephone Co., a local copartnership, has recently been organized, with headquarters at Virgilina, Va., for the purpose of constructing a telephone system connecting all the various mines of the district with Virgilina and with the long-distance lines. Equipment is wanted, and Dr. F. D. Drewry of this place may be written with regard to contracts.

"Taken altogether, the outlook for the Virgilina mining section is brighter now than at any time in its history. During the present year more openings have been made, more veins discovered, more property bought, more machinery installed and more ore shipped than in any year before. The ore is here, and the success of the mining belt assured. The section is as yet only partially developed, and what the limit of possibilities are can only be conjectured."

The Pig-Iron Market.

Matthew Addy & Co. of Cincinnati in their weekly report say:

"As yet there has been none of the midsummer dullness that in previous years has been the regular thing in the trade. Business is keeping up in a surprising way. Of course, some apprehension is beginning to be felt over the outcome and the influence of the steel strike. Everyone recognizes that there are potentialities there that might be extremely harmful to the business interests of the country, but up to the present the strike has had no appreciable influence on the situation. It has made the cautious a little more cautious, that is all. August has opened with a steady business that shows no signs of letting up even for a single day. There is nothing phenomenal doing, but each day there is a regular run of small orders, with a fair sprinkling of large ones, that at the week's end foot up into a fine tonnage. This kind of buying shows that consumption is still at high-water mark. The eagerness of consumers for quick shipment demonstrates that

they are running with but scanty stocks on hand; in fact, barring labor troubles, the situation from an actual and statistical point of view is most favorable."

A STRONGER UNDERTONE.

The Birmingham Iron Market Holds Its Own.

[Special Cor. Manufacturers' Record.] Birmingham, Ala., August 5.

There were conflicting reports concerning the iron market the past week. Some declared it to be in healthy condition, with increased demand and improved transactions. Others reported it without change. Your correspondent cannot see that it has done other than held its own, with perhaps a little stronger undertone pervading it. This last condition is due in part to the fact that with the furnaces out of blast some grades were running in light supply. Beyond the influence exercised by this fact there was nothing in the market to cause special comment.

Prices were unchanged. No. 2 foundry iron sold at \$10.50; No. 3 foundry sold at \$10; No. 4 foundry sold at \$9.50, and gray forge at \$9.25. No. 2 soft sold at \$10.50, and No. 1 soft at \$11. There were some sales of basic iron at \$11, but in no large amounts. Quotations were fairly well maintained, and in some instances, especially in the case of small orders, prices stiffened a notch. In volume the transactions were not important. Shipments were good. Some of the off grades have been pretty well cleaned up, and we are in good condition for a healthy demand.

The strike in the ranks of the Amalgamated workers has been of benefit to the district, in so far that it has created a fine demand for the finished product and given all the business to our mills that they could handle; in fact, the business has been greater than they could care for. There is some complaint of difficulty in securing ordinary labor, and other districts have seduced some of it away from us. But it is gradually coming back in small detachments. The railroads under construction absorb a good part of our migratory labor. The negro loves a change, and when to green fields and pastures new is added an increased wage, the temptation to change his base is complete.

There have been no contracts made for a considerable time for export iron, and outgoing vessels have manifested some concern as to ballast for the coming season. Freight agents have been active of late in offering acceptable rates and shading prices to secure business. But no success was attained until last week. Your correspondent has reason to believe that one order was successfully negotiated for 2000 tons. Prices on the other side have been gradually moving up to a parity with ours. As there is a desire to secure this kind of tonnage, it is conservative to anticipate at an early date some of the old-time activity in the export trade. In steel prices are firm, and the demand is good. But the overhauling of the furnaces at the steel mill will necessarily curtail production and make the business small.

Formal announcement of the consolidation of the Tutwiler and Adler interests has been made, the name of the corporation being the Tutwiler Coal & Iron Co. It will mine coal and iron, make coke, etc. It has so far but one furnace. The furnace at Trussville is being prepared to go to work.

With all the activity prevailing in mining, it is stated on good authority that from one-sixth to one-eighth of the ore used in the furnaces of this district comes from outside the district. Of course, this is the brown or soft ores, which are not

so plentiful as they once were. Fortunately, a discovery has been made of large extent of an ore that can be used in the place of the brown ore as it becomes scarce and produce an iron that in quality will be no deterioration from that produced at present. The average per cent. of metal in the ore as shown by twenty-eight different analyses is 48.82.

Plans are being drawn for the skyscraper office building here. Interest is being awakened in real estate in the business section, and several transactions of importance have occurred. J. M. K.

Southern Manganese.

The production of manganese ores in the United States increased from 9935 long tons in 1890 to 11,771 tons in 1900. According to a special report by Mr. John Birkinbine for the United States Geological Survey, Virginia contributed 7881 tons and Georgia 3447 tons, or, together, 96 per cent. of the total product in 1900. These two States, with Arkansas, have been the principal producers of manganese ores in this country. Only six States produced them in 1900. In Arkansas the ores are mined in the Batesville district, but last year there were only two active mines there, with an output of 145 tons. All of the Georgia ore came last year from the Cartersville belt, commencing about four miles south of that town and extending northward twenty miles to Beasley's Gap, with a breadth of between two and three miles. The mining here has been precarious, but there is a large amount of ore in reserve. This year the mining has been extended in the Cave Spring district, where, it is claimed, the ore is of a more uniform quality and lower in phosphorus. In 1886 Virginia mined 20,567 tons of manganese ore. After that there was a decline until 1895, when but 1715 tons were produced. But since then there has been a steady advance again.

Iron-Ore Production.

The total output of iron ore in the United States in 1900 was 27,553,161 long tons, according to a report of the geological survey, an increase over that of 1890 of 2,869,988 tons. In his review of this production Mr. John Birkinbine brings out the following facts about the output in the Southern field: Alabama was third in rank as a producer, contributing 2,759,247 tons, or 10 per cent. of the total. Of this, 1,989,689 tons were red hematite and 769,558 tons were brown hematite. Virginia and West Virginia mined 921,821 tons, all brown hematite save 3664 tons of red hematite. Tennessee produced 310,387 tons of brown and 283,784 tons of red hematite. In North Carolina and Georgia 259,863 tons of brown hematite, 55,844 tons of red hematite and 20,479 tons of magnetite were mined. Other Southern producers were Kentucky, with 52,920 tons of brown hematite; Maryland, 18,000 tons of brown hematite and 8223 tons of carbonates, and Texas, 16,881 tons of brown hematite.

Building at Atlanta.

It is estimated that already 400 more building permits have been issued this year at Atlanta than last year. During July 238 permits were issued, representing proposed expenditure of \$473,998. In a letter to the Manufacturers' Record Mr. James W. English, president of the Fourth National Bank of that city, writes that there is a much larger amount of money being invested in new buildings in Atlanta than at any time during the past thirty-five years. Old buildings are being torn away and new and modern ones are being erected in their places.

A QUESTION OF RATES.

Important Element in Extending the Use of Fuel Oil.

(Special Cor. Manufacturers' Record.)

Beaumont, Texas, August 3.

By far the most important happening in oil matters during the week is the hearing given by the railroad commission of the State to determine whether or not the present prohibitive rates on fuel oil shall be lowered or not. The hearing took place today at Austin before the commission. It has developed that the fight is between the oil men and the coal and lignite producers of the State. There are fifteen or twenty lignite mines in the State, and several big coal concerns, notably at Thurber and Bridgeport, Texas. Of course, the railroads of the State are opposing the reduction, but this is on general principles, for they always oppose all reductions. Several of the manufacturing industries of the State which would be permitted by a reduction to use oil, and thereby derive benefit, were represented at the hearing; in fact, it is one of the most representative gatherings of business men ever appearing before the commission. Evidence was introduced to show the comparative cost of oil and lignite, together with coal, both at the point of origin and also at the various destinations. The Beaumont companies represented at the hearing were as follows: The Higgins Oil & Fuel Co., the J. M. Guffey Petroleum Co., the Heywood Oil Co. and the German-American Oil Co. The matter at the close of the hearing was taken under advisement by the commission, and their decision will be announced later. The decision of the commission in this matter is one of the greatest importance to oil men, for upon it rests whether or not Beaumont oil shall become the fuel of the State. The outcome of the matter is anxiously and eagerly awaited by the various oil companies.

There does not seem to be the slightest abatement in the efforts put forth to locate oil off the charmed spot of Spindle Top Hill. Several companies are boring steadily for oil, and in every direction surrounding the Hill, and it does look that if there is an ingress of oil into the Hill, some of these persistent oil men will find it. One thing to be remembered is that it took Captain Lucas two years to find the Spindle Top Hill oil, so that no one need be discouraged because the vein has not yet been struck. In the meantime those companies which have wells are beginning to market the oil. The Higgins Oil & Fuel Co. has about 125 tank cars of its own, and these are being loaded and shipped out as fast as they are returned to the company. The Guffey Company is also shipping a large amount of oil. The daily shipments are estimated to be 30,000 barrels, including the exports and the tank-car shipments. When the Guffey Company gets its five new oil steamers in commission it is probable that this average will run to 40,000 barrels per day, and by that time the domestic demand may be increased sufficiently to run the average to 50,000 barrels daily.

Oil has a good many things to contend with. In the first place, as indicated above, the freight rates are very unsatisfactory; then a good many manufacturers have long-time contracts for coal, which must be carried out before they can entertain thoughts of a change; next, several of the firms who would change right away are rather dubious about the supply, but this is being overcome by some of the larger companies by making contracts for long time, say one or two years, backed up with a gilt-edge bond. So that it may be expected that the efforts for

marketing the oil must proceed slowly, but they will be none the less sure, for all that. The present shipments, therefore, of 30,000 barrels per day are only equal to about one-half of the capacity of one well. The State institutions, under the charge of the State purchasing agent, recently advertised for bids for the furnishing of oil delivered at Austin and other points, the State's various asylums, etc., having decided to use oil. The Waters-Pierce Oil Co. secured the contract on a bid of 59.3 cents per barrel delivered Austin, which was an exceedingly low price, and by oil men in this field claimed to be much lower than they can possibly obtain it for. However, the governor found out that the Waters-Pierce Oil Co. had not complied with the provisions of the anti-trust law, by which it is required to make a sworn affidavit that it is not now and never has been for the entire year in a trust, pool, etc., and ordered the contract to be canceled, and further ordered the attorney-general of the State to institute suit for the forfeiture of its charter and permit to do business in Texas. It is not quite a year since the permit of this company was taken away from it for the same reasons, and after a good deal of conferring the matter was arranged, and H. Clay Pierce, the president of the company, assured the State officials that if given reinstatement it would comply with the law. It will be interesting to watch results. In the meantime the State purchasing agent is advertising for new bids.

There are now twenty gushers belching forth, or ready to belch, great volumes of oil on Spindle Top Hill. The last one to come in was the well of the Yellow Pine Company, which came in Friday. This company was never heard of until its well suddenly burst forth. Its stock has never been offered for sale, and scarcely anyone in the city knew there was such a concern. The well is located on Block 33, Gladys City subdivision of Spindle Top Heights, and is 957 feet deep. The company is capitalized for \$100,000, and the following prominent men are connected with it: Geo. W. Carroll, John L. Keith, Joe Carroll, E. L. Bacon and John C. Ward. The suit of Messrs. Frank Keith and John C. Ward against the Spindle Top Oil Co. was compromised by the Spindle Top Oil Co. getting six and one-half acres of land on the Hill and the Keith-Ward Company the remaining eight and one-half acres. In connection with this settlement it is rumored that one or both of the companies will put a part of their land on the market for sale. The Keith-Ward Oil Co. is also considering putting down a well, the delay being caused by its not having determined whether to contract it out or do it themselves.

The Lone Star & Crescent Oil Co. has built a standpipe sixty feet high, by which it will secure a pressure to force the oil through its pipe lines to the city, a distance of four miles, and also to its loading racks, and to its pumping station, distant one mile from the well. The oil will flow to the pump, and the latter will force it on down to Sabine to load into vessels. It will thus be seen that this company is making the oil that comes up do half the work. It is reported that the Hamman Oil Co., boring at Sour Lake, is down 1000 feet, and that its drill is on the cap rock. Two pockets of oil have already been struck, in the neighborhood of 200 to 300 barrels per day. It is seriously thought that when it has penetrated the cap rock it will get a fine flow of oil.

In addition to plants which manufacture for their own use, six ice-making plants in Richmond, Va., turn out 360 tons daily.

Charleston on the Move.

(Special Cor. Manufacturers' Record.)

Charleston, W. Va., July 31.

Charleston is now experiencing most gratifying industrial and financial activity. Along both lines a number of new enterprises have been recently set afoot, and several more are likely to be undertaken in the near future.

Possibly the most far-reaching of these new movements is the announcement made by the officials of the Chesapeake & Ohio Railway of their intention to construct a large freight terminal on the Charleston side of the Kanawha river, so as to facilitate the handling of the big shipments of merchandise made by Charleston jobbers, and to co-operate with the Kanawha & Michigan Railway in handling the coal output from the mines along the north side of the Kanawha. These mines have all recently passed into the hands of the Kanawha & Hocking Coal & Coking Co., which will probably make this city its distributing point.

Local capital has recently undertaken the erection of a big veneering plant. Being in the center of a great timber territory, Charleston is most admirably located for such an enterprise, and that it will be a great success there is hardly any doubt.

Another marked indication of the substantiality of this new growth is the announcement made by the management of the Tanners & Dyers' Extract Co. of its intention to rebuild on a larger and more elaborate scale the portion of its plant which was recently destroyed by fire. This concern, which is operated by Eastern capital, makes heavy shipments of its product not only to other States, but to Russia, Germany and other foreign countries.

The latest announcement of interest is that a banking and trust company has just been organized, and will shortly begin business. It is composed of some of the wealthiest citizens of Charleston. There are already four banks here, three of which are national and one State.

Still more far-reaching in its portents is the steady development of the gas field recently opened up on the Elk river, about twenty miles from Charleston. Already four or five wells have been sunk. The opportunities which this development offers to manufacturing industries are almost incalculable, and Charleston must certainly within a very short time feel the salubrious effects. CHARLES LOEB.

Shipbuilding on the Gulf.

Directors of the Gulf Coast Shipbuilding & Dry-Dock Co., which proposes to erect on the Gulf coast a shipbuilding plant and dry-dock with lifting capacity of 10,000 to 12,000 tons, have been visiting ports on the Gulf with a view to selecting a site for the plant. In an interview at New Orleans Mr. S. B. McConico, second vice-president and secretary of the company, said:

"There are some surface recommendations for New Orleans as the site for the shipyard, and some for Mobile. It is to determine which point presents the most advantages that the present trip of inspection is being made. I am convinced that a shipyard on the Gulf coast cannot help but succeed. This is the era of American shipbuilding. Last year American shipyards turned out 30 per cent. more tonnage than they had ever turned out before, and there is not today a single shipbuilding establishment which will undertake to build a vessel of any size within the next two years. The demand for ships is simply overwhelming.

"The home of the raw material is right at hand here. The Gulf coast is the center of production in the matter of timber,

and the coal and iron fields of Alabama are right at hand. Unskilled labor is plentiful and cheaper than it is in the North, too. I think that a shipbuilding plant established at either New Orleans or Mobile would have all the business it could take care of, and more, from the very beginning.

"I believe that if such a plant was established in either city the Tennessee Coal & Iron Co. would build a plant for the manufacture of armor-plate, and that the Gulf coast could get right in on the furnishing of the new vessels for the navy."

In a letter to the Manufacturers' Record touching the plans of the Gulf Coast Shipbuilding & Dry-Dock Co., Mr. McConico writes:

"This company has been organized for the purpose of constructing a shipbuilding plant of the most modern type on the bay of Mobile, and establishing at New Orleans a ship-repairing and dry-dock plant adequate to the needs of that port. The capital proposed to be invested, including a sufficient working fund, will be between \$3,000,000 and \$4,000,000. The company has not yet been fully financed, but has placed itself in touch with excellent channels for that purpose, and in view of the rapidly crystallizing sentiment in financial circles in favor of shipbuilding as a coming great industry, we believe that all the money needed will be forthcoming. The ablest available talent will be secured to direct and manage the company's affairs, as its scope is designed to be second to none in the country."

A visit of gentlemen interested in the company to Mobile and vicinity has led to the report that Alabama Port has been selected as the site for the shipbuilding plant.

Southern Mineral Waters.

A. C. Peale has prepared for the United States Geological Survey a report on the production of mineral waters in 1900. His report deals with 561 springs, with a product of 47,558,784 gallons, valued at \$6,245,172. To this Southern springs contributed as follows: Alabama \$22,122, Arkansas \$38,235, Florida \$13,620, Georgia \$28,200, Kentucky \$10,250, Maryland \$36,849, Mississippi \$48,617, North Carolina \$29,799, South Carolina \$37,046, Tennessee \$44,343, Texas \$209,991, Virginia \$272,868, West Virginia \$10,723. The value of the output of mineral springs since 1883 is more than \$60,000,000.

An Inland Waterway.

The Lake Borgne canal, connecting the Mississippi river with Lake Borgne, La., an undertaking planned forty-five years ago, has been completed. The canal proper is three miles long, though the waterway includes four and one-half miles of bayous. Its completion gives ready access to New Orleans for the large lumber, brick and naval-store industries of the Lakes Pontchartrain and Maurepas districts. By it the Mississippi river and Mississippi sound are connected.

The South Baltimore Harbor Improvement Co. has closed a contract with the Sanford & Brooks Company of Baltimore for the erection at Curtis Bay, in the Patapsco river, of a bulkhead with a frontage of 250 feet and a depth of 400 feet, to improve the shipping facilities of industries at Curtis Bay.

Comptroller-General Wright of Georgia estimates that the tax returns of this year will show an increase of not less than \$14,000,000 over the returns of last year, not including an increase of nearly \$4,000,000 in railroad property.

FOREIGN TRADE.

This department is designed to set forth opportunities for the extension of the trade abroad of American manufacturers, and to record facts about the rapidly-developing commerce of the South.

TRADE WITH TURKEY.

Suggestions of Interest to American Manufacturers.

In a letter to the Manufacturers' Record Miltiade Iossif of Constantinople suggests that American manufacturers of locomotives and freight cars should appoint representatives in Turkey, in view of important orders contemplated on the part of the Ottoman government in connection with the Hedjaz Railway. Referring to machinery he writes:

"It is a recognized thing that United States manufacturers excel particularly in this line, and our mechanical men are as much aware of the fact as any men possessing a sound knowledge in technical questions. Unfortunately, the largest portion of trading people in machinery in the Levant have but a rough idea of the structure of a machine, and they cannot be therefore expected to appreciate the same by a simple perusal of its description. It is true that descriptive matter contained in American machinery catalogues is comprehensible to the extreme, but while pamphlets may be of some avail to enlightened people familiar with English language, they are of absolutely no use to tradesmen who may happen to have some notions of French, but understand nothing about English. Our very engineers are not even often acquainted with the latter language, and the agent's role often becomes very hard if he is compelled to submit plans and specifications within a limited time and has to rely upon himself for translating a technical text. I therefore would suggest to concerned manufacturers to have catalogues issued in French, and believe that this only step would mean very much for the introduction of their machinery into our part of the world. I have further experienced that said manufacturers are generally contrary to give quotations for machines delivered free on board at destination, and this, to my opinion, constitutes a serious obstacle to the development of this line. It is natural enough that buyers should insist on having the machines tested at destination before finally accepting the same, and this principle is diametrically contrary to that of American manufacturers, who never consent to any other test than the one the machines undergo before leaving their plants, and ignore any damage that may derive from severe handling during the transportation or a defective packing. The fact that United States concerns exact the payment in advance of the entire value of the machines is another obstacle. I personally know of an instance when a lot of machinery was refused by the Ottoman government simply because manufacturers insisted on being paid in advance, whilst the government was offering to pay 50 per cent. on delivery of goods at New York and the balance against shipping documents at destination. In conclusion, I believe that should manufacturers consent to make some concessions on the above-mentioned points, American machinery has real chances to find its way into our territory and soon prevail over any other countries."

Mr. Iossif then mentions agricultural machines, breadstuffs, beef products, beer, bicycles, boots and shoes, butterine, canned goods, clocks, cotton duck, cordage and rope, desks, flour, furniture, hardware, hats, iron, lamps, leather,

nails, paper, phonographs, pumps, railway supplies, silverware, bar and sheet steel, tallow and typewriters, locomotives and freight cars. Discussing the general question of American trade in the Levant, he says:

"American trade has reached but a very small development in Turkey and the Levant, in spite of serious efforts by various parties in the United States and in our country. While one must admit that reasons independent of individual will are to a great extent responsible for the failure of these efforts, such as the distance lying between the United States and our part of the world and the freight charges, the policy followed by American manufacturers and the very way in which the largest part of business relations existing between the two countries have been created account a good deal for the lack of success. Whilst United States manufacturers insist on being paid before shipment of goods, consumers, as a rule, feel little inclined to meet that requirement, which they consider to be impracticable, and which to most of them appears as a token of mistrust to their reliability. The result is that a rather strong feeling has been created in those very quarters which lead the traffic with foreign countries, some rare concessions being only made on behalf of a few 'essentially American' products that, of course, cannot be obtained from European markets."

"This, in my opinion, is a sad state of things which is bound to resolve itself into an irremediable antagonism if strong measures are not adopted with a conciliatory view. Such measures will be respectfully submitted in the course of this report to those readers who are best qualified to resolve the question."

"In order to facilitate transactions, several concerns in the United States thought it effective to use the medium of responsible export agents in New York in dealing with parties in our country; in fact, those agents offered easier terms, and most of the commercial relations existing now between the Levant and the United States are based on that principle. It is not often, however, that an export house in New York happens to deal direct with consumers here, a more frequent way being that of dealing with consumers through the medium of local commission agents. There are consequently three distinct modes of transaction going on nowadays between the United States and the Levant, viz., consumers dealing direct with manufacturers, consumers dealing through export agents in New York, consumers dealing through the double medium of local commission agents and export houses in New York."

"Although direct dealing of consumers with manufacturers is the more lucrative way of dealing for the first-named, yet it is the less practiced on account of the principle of prepayment necessarily attached to same. There are, of course, instances when manufacturers consent to be paid at destination against shipping documents sent through a bank, but such facilities are only granted to people whose standing is guaranteed by some responsible United States firm, and the examples are, in fact, so few that they constitute but rare exceptions to the rule. When it is further taken into consideration that no regular direct United States line exists between the United States and the Levant ports, which sometimes causes goods to arrive at destination four or four and one-half months after the ordering of same, it will be found that, under ordinary circumstances, this system is by no means tempting to the buyer."

"The plan of consumers dealing through export agents in New York is not often resorted to, owing to the fact

that export houses in New York do not care much to serve individual interests, while they find it preferable to make arrangements with import agents in our city, the latter being, of course, in a position to secure by far more frequent and substantial orders, as they canvass in the same time for several articles and in various quarters. Hence instances are very few when local merchants get a chance to place their orders with American makers through agents in New York, and surely one can never expect a great development in the trade from this particular kind of relation."

"Although of late consumers have been dealing through local commission agents and export houses in New York, experience proves that the expected success was not to be obtained under present circumstances. More than one enterprise, backed both by leading financiers here and competent persons in New York, were created and dissolved, the only consequence being to throw every time more discouragement in the mind of those who might contemplate the possibility of introducing American products into Turkey. It may perhaps be asked why people familiar with trade questions do not undertake similar enterprises. The reason is obvious: Because import agents (and they are the only good judges in the matter) are not generally sufficiently wealthy men to start an enterprise of this kind, and should they really be, accustomed, as they are, to deal with European manufacturers without being obliged to engage their own estate, the idea of buying at their own risk would seem to them quite new, and consequently unacceptable."

"It is not to be wondered that the application of the mentioned modes of transaction has given forth but very poor results, and it is a fact that but for a few United States concerns who have consented to work on a commission basis, no American product would ever have a chance to sell in the Levant markets. It is interesting to mention here the huge success obtained in a comparatively small number of years by firms which have fully understood the impossibility of introducing their lines advantageously into foreign markets by other means than the assistance of local commission agents, and which did not shrink from granting exclusive agencies, as the average United States manufacturer does when requested to; for, although the latter feels generally inclined to enter into business relation with any applicant whose references prove satisfactory, he does not consent to appoint 'sole agents,' on the strength of the argument that he would not care to make any formal arrangement so long as it is not materially proved to him that the traffic will run on a more or less large scale. In this case the applicant generally withdraws his demand and the matter is set aside when it would perhaps have been feasible to build up a fair business. Manufacturers hasten to conclude that the application had no serious object, and they go on declining any similar demand of which they may happen to be the recipient. Should they have chosen, however, to closely investigate the reasons which induce the applicant to resign, they would perhaps be much astonished to find out that the latter's claim is by no means groundless."

"I am sure that if manufacturers have not already thought to remedy this situation, this is by no means due to a lack of good-will on their part, but surely to the fact that nobody undertook to enlighten them on this particular point. In this connection I have pleasure in acknowledging here that my arguments have always met with hearty welcome in the

circle of my private connections in the United States, and, judging from the satisfactory results I did not fail to obtain therefrom, I feel convinced that all readers who are concerned in the question will give their very best attention to the matter and readily adopt the proper means that are bound to bring mutually advantageous results.

"Another reason why failure was to be expected is that the efforts of those who undertook the introduction of American products was mostly absorbed by articles that cannot sell to advantage in our market, either on account of their intrinsic value being higher than that of their European rivals, or owing to their being manufactured in the United States under conditions that make them inconvenient to our trading people, such as grade, shape and design. There are, on the contrary, several lines which deserve particular attention on the part of the dealer, and to these exclusively ought to be concentrated the efforts of those who genuinely wish the progress of American industry in our part of the world."

Notes.

In July the import duties at New Orleans amounted to \$1,065,922.42, an increase over July, 1900, of \$180,620.36.

During July the Galveston Wharf Co. elevators received 2,399,419 bushels of wheat and delivered 1,852,353 bushels to steamers. During the fiscal year the wheat exports from Galveston amounted to 14,010,378 bushels.

A dispatch from Mexico City says that the Mexican Lloyd Trading & Transport Co. has obtained a concession from the Mexican government to run a line of steamers between Mexican Gulf ports and Baltimore and other United States ports.

It is expected that shipments of cottonseed meal and cake will be greatly facilitated by an arrangement which has been made by the Illinois Central Railroad and the Head Line of steamers, by which shipments can be made from New Orleans to Belfast for transshipment to almost any point in the United Kingdom.

The Algiers Dry-Dock.

Specifications of the supplemental works for the United States government dry-dock at Algiers have been received at New Orleans. They are for five buildings—a two-story office building, a general machinery building, blacksmith shop, power-house and foundry. The machinery building, the largest of all, will be two stories high, 66 feet and 10 inches by 276 feet and 10 inches. The immense steel dry-dock is rapidly approaching completion at the works of the Maryland Steel Co. at Sparrow's Point.

A Triple Launching.

The Maryland Steel Co. at Sparrow's Point, Md., has issued cards to the launching on August 15 of three United States torpedo-boat destroyers, the Truxton, Whipple and Worden. Special cars of the Pennsylvania Railroad for Sparrow's Point will be run from Jersey City, Philadelphia, Washington and Baltimore, and the triple launching, rather a unique event, will undoubtedly attract a large and representative attendance.

El Siglo, the eleventh ship built by the Newport News Shipbuilding & Dry-Dock Co. for the Morgan Line, was launched on Saturday at Newport News, Virginia.

The J. M. Guffey Petroleum Co. and the Lone Star Crescent Oil Co. are seeking permission from the New Orleans authorities to carry out plans for the distribution of fuel oil in that city.

RAILROADS.

[A complete record of all new railroad building in the South will be found in the Construction Department.]

KENTUCKY RAILROADS.

Plans to Complete a Project of Twenty Years' Standing.

Plans for completing a railroad undertaking in Kentucky began about twenty years ago took definite shape last week in the incorporation of the Cumberland & Ohio Valley Railroad Co., with a capital stock of \$500,000. A dispatch from Frankfort says that about 100 miles of the road in three separate sections have been in operation for several years under different managements; that control of these short lines has been secured and the links are to be constructed immediately, forming an airline across Kentucky, connecting at Madison, Ind., with the Pennsylvania system and at Nashville with Southern lines. About 125 miles of road must be constructed to fill the gaps which were surveyed twenty-five years ago, and part of which has been graded and tunneled. Verification of the route is to be made at once, and contracts will then be let so as to permit working to begin September 1. The dispatch continues:

"The lines now in operation are the branch roads running between Shelbyville and Bloomfield, Lebanon and Greensburg and Scottsville, Ky., to Gallatin, Tenn. The links to be constructed, therefore, will run from Nashville to Gallatin, Scottsville to Greensburg, Lebanon to Bloomfield and Shelbyville to Madison. The route of the road will then be southward from Madison to Bedford, in Trimble county, through New Castle and Eminence, in Henry county, to Shelbyville, and through Taylorsville, in Spencer county, past Bloomfield to Springfield, in Washington county, and then to Lebanon. Passing Lebanon, the road will tap Campbellsville, in Taylor county, and Greensburg, in Green county; traverse the northwest corner of Metcalfe county to Glasgow, in Barren county, and run thence to Scottsville, in Allen county. Leaving the Kentucky State line in Allen county, the road will run through a corner of Macon county, Tennessee, down to Gallatin, in Sumner county, and thence into Nashville through a part of Wilson county. These counties are among the richest in the two States."

Mr. Peter Arnold of Louisville is leading in the movement for the road, and with him are associated Messrs. P. Booker Reed of Louisville, George Boring of the New Albany National Bank, Charles Parker, secretary and treasurer of the Louisville Bolt & Iron Co.; Charles W. Gheens, Fred H. Beaman, Thomas Leonard and several others.

Work on the section of the Cincinnati & Licking River Railroad for thirty miles between Brookville and Johnson is being pushed, and the company proposes, it is announced, to build seventeen miles from Johnson to Hillsboro, twenty-six miles from Morehead to West Liberty, thirty miles from West Liberty to Paintsville and eight miles from Paintsville to Pound Gap, opening up some of the richest mineral lands in Kentucky. An extension of the Ohio & Big Sandy division of the Chesapeake & Ohio Railway from Whitehouse to Prestonburg, which is being urged in Eastern Kentucky, would lead to the development of coal fields in that section, as well as other mineral lands.

Citizens of Edgefield, S. C., are working for an electric railroad from Augusta to that point.

Recent Railroad Earnings.

In the six months ended June 30 last there was an increase in the gross earnings of the Northern Central Railway Co. over the same period last year of \$150,700, an increase in expenses of \$101,900 and an increase in net earnings of \$48,800. The increase in net earnings in June over June, 1900, was \$14,300.

On all lines directly operated by the Pennsylvania Railroad Co. the gross earnings during the same period increased over those of the same period last year \$1,009,300, the operating expenses increased \$1,509,900 and the net earnings \$2,499,400.

During the same period the gross earnings of the Seaboard Air Line Railway Co. increased \$862,213, its operating expenses \$260,577 and its net earnings \$601,636.

The showing for the fiscal year of some of the other railroads in which the South is interested is as follows:

Norfolk & Western Railroad Co.—Gross earnings, increase \$1,694,436; operating expenses, increase \$944,363; fixed charges, decrease \$23,922; surplus, \$773,995.

Central of Georgia Railway—Gross earnings, increase \$834,452; operating expenses and taxes, increase \$785,153; net earnings, increase \$49,299.

Chesapeake & Ohio Railway Co.—Gross earnings, increase \$1,969,471; operating expenses and taxes, increase \$879,540; net earnings, increase \$1,089,931.

A dispatch from Chicago states that it is estimated that the Illinois Central Railroad system earned 15 per cent. on its capital stock during the fiscal year. The estimate places gross earnings at \$37,000,000, operating expenses \$24,250,000, fixed charges and taxes \$5,750,000, and surplus \$7,000,000, to which is added \$1,100,000 surplus of the Yazoo & Mississippi Valley Railway, making a total of \$8,100,000.

A Large Electric Plan.

In a letter to the Manufacturers' Record announcing the beginning of the survey of the Baltimore, Westminster & Gettysburg Railroad Co. Mr. Charles E. Fink of Westminster writes as follows:

"The same parties who organized this company have organized another company in the State of Pennsylvania called the Baltimore, Westminster & Gettysburg Street Railway Co., and it is proposed to consolidate, or, at least, the two companies will work hand in hand. Their present plan is to build 207 miles of electric railroad, beginning at Reisterstown, Md., through Westminster, Md., Littlestown, Pa., Gettysburg, Pa., Chambersburg, Shippensburg, Carlisle, Mechanicsburg to Harrisburg; thence from Mechanicsburg to Dillburg, York Springs, East Berlin, Abbottstown, New Oxford, McSherrystown, Hanover to Littlestown. They have also in contemplation the building of a line from Westminster to Washington, D. C., also from Reisterstown through Hampstead and Manchester to Hanover, Pa., and from Abbottstown to York, Pa., and from Gettysburg, Pa., to Emmitsburg, Md.

"It is proposed to issue \$4,000,000 of 5 per cent. first mortgage bonds, and efforts will be made to float these at once."

In Mineral and Timber Fields.

In a letter to the Manufacturers' Record Mr. N. L. Barnett of Somerset, Ky., writes that Col. L. F. Hubble of Lancaster, Ky., on August 3 filed in the Pulaski county court articles of incorporation of the Cumberland River & Nashville Railroad Co. He adds:

"The company will build a standard-

gauge railroad from Corbin, Ky., on the Louisville & Nashville Railroad, to Burnside, Ky., a distance of forty-three miles, and from Burnside to Monticello and the oil fields of Wayne county, in all seventy-five miles. Colonel Hubble's associates all stand high in financial and railroad circles. This railroad opens up a very rich coal and timber field along the valley of the Cumberland river and in line of a rich oil district. Colonel Hubble owns and controls large areas of coal and timber along the line of this railroad that will be developed. Work of construction will begin about October 7."

A Mississippi Project.

The commercial bodies of Birmingham, after a conference with Messrs. W. L. Dinkins and D. L. Roberts of Canton, Miss., and others interested in the projected Birmingham & Vicksburg Railroad, have determined to investigate the matter thoroughly, and if it seems feasible, to guarantee \$5000 for surveying purposes. The route of the road has been surveyed from Canton, Miss., to Fairfield, Ala., 112 miles, and the trip of its promoters to Tuscaloosa and Birmingham during the past week has been to interest the citizens of towns along the route, so as to raise funds to complete the survey.

Arlington & Columbus.

The Arlington & Columbus Railway Co., with a capital stock of \$500,000, has been chartered to build a railroad from Arlington, Ga., to Columbus by way of Cuthbert and Lumpkin, through Columbia, Randolph, Stewart, Chattahoochee and Muscogee counties. Messrs. J. F. Hanson, John M. Egan, T. D. Kline, T. M. Cunningham, A. R. Lawton, George J. Miles, E. H. Hinton, W. A. Winburn, H. A. Dunn and H. C. Cunningham are the incorporators. It is thought that the road, which will be ninety miles long, will be operated in harmony with the Central of Georgia.

Sumter & Northern.

Application has been made in South Carolina for a charter for the Sumter & Northern Railroad Co., which proposes to build a road thirty-eight miles long from Sumter to McBee, or Bethune on the Seaboard Air Line. The company is to have an initial capital of \$100,000, and the incorporators are A. Brooks Stuckey, Julian E. Harby, Richard I. Manning, Marion Moise and Wm. A. Bowman of Sumter, Robert M. Cooper of Wisacky and George H. Reid and Charles L. Stuckey of Bishopville.

Texas Railway Extensions.

An amendment to the charter of the St. Louis Southwestern Railway Co. has been approved at Austin, providing for extensions of thirty-two miles from Mulesville to Hamilton, of ninety miles from the present terminus of the Tyler Southeastern road near Lufkin, through Angelina, San Augustine, Sabine, Jasper and Newton counties to a point on the Sabine river in Newton county; of thirteen miles from Hillsboro to Whitney, and of thirteen miles from Renner to Dallas.

For Timber Development.

Citizens of Mobile have incorporated the Monroe & Greenville Railroad Co., with a capital of \$100,000, to construct a road from a point on the Alabama river, in Monroe county, between the mouths of Flat creek and Limestone creek, and following the course of Limestone creek in a northeasterly direction toward Greenville. It is thought that the road is to be constructed to develop timber lands.

Wheeling to Wellsburg.

Contracts have been let by the Pan Handle Traction Co. at Wheeling, W. Va., for grading, masonry and timber and pile trestling on the line of its electric road from Wheeling to Wellsburg, sixteen miles. The contracts, aggregating \$190,000, were awarded to Stringer & Hallock, and provide that work is to commence within fifteen days and pushed to completion by next spring.

Paying for New Equipment.

The deed of agreement filed at Richmond, Va., last week between the Chesapeake & Ohio Railway Co. and the Girard Trust Co. of Philadelphia provides for the ultimate purchase by the railway company for \$1,000,000 of twenty-five consolidation locomotives, 400 pressed-steel gondolas, 300 wooden gondolas and 300 wooden box cars.

Railroad Notes.

The Plant system is to build a new passenger station at Lakeland, Fla.

It is reported that the Southern Railway is to build a large brick freight depot at Bristol, Tenn.

Contract has been let by the Georgia Fine Railroad for an extension of its line from Arlington to Columbus.

Work has begun on double-tracking the line of the Maryland & Pennsylvania Railroad Co. near Baltimore.

Work has begun on the grading of the International & Great Northern Railroad extension between Spring and Navasota, Texas.

It is announced that the International & Great Northern Railroad will move slowly in fitting up its engines with oil burners.

On August 1 connection was made between the Brunswick & Birmingham Railroad and the Seaboard Air Line Railway near Brunswick.

Citizens of Swansboro, N. C., are interested in the movement to build a railroad from that place to a connection with the Wilmington & New Berne Railroad.

Local capitalists of Jackson, Miss., are considering the construction of an electric road about twelve miles long from Jackson to Mississippi Springs, which was formerly a popular health resort.

It is expected that the cars for the new Richmond & Petersburg Electric Railway will be delivered not later than August 20. The road will be operated at first between Manchester and Clifton.

The tunnel of the Nashville, Chattanooga & St. Louis Railway through Raccoon mountain, twelve miles from Chattanooga, is being widened to permit of the passage of the largest cars.

Rights of way are being secured for an electric road to be known as the Urbana, West Point & Yorktown Railway, and to extend from Toano, on the Chesapeake & Ohio Railway, to Urbana, Middlesex county, Virginia.

It is announced that a syndicate of Eastern men represented by Mr. A. R. Sweeney is preparing to spend a considerable sum of money in improving the street railroad lines at Huntsville, Ala., recently acquired by it.

Messrs. Fairfax Harrison and B. L. Abney, the purchasers of the Blue Ridge Railroad, which extends from Anderson to Walhalla, S. C., propose to extend the road to Rabun Gap, Ga., with Knoxville as the ultimate terminus.

A survey is being made for a track to connect in Cecil county, Maryland, the Philadelphia, Wilmington & Baltimore Railroad and the Baltimore & Ohio for the use of trains during the replacing of

a span in the Baltimore & Ohio bridge across the Susquehanna above Havre de Grace.

An amendment to the charter of the Weatherford, Mineral Wells & Northwestern Railway has been approved by the attorney-general of Texas, permitting of extensions to Jackshoro and Graham, aggregating sixty-one miles.

The Louisville Bridge Co. of Louisville, Ky., has been given the contract for the construction of a \$75,000 steel bridge across the Tennessee river at Johnsonville, Tenn., for the Nashville, Chattanooga & St. Louis Railway.

The Poplar Creek Coal & Iron Co. has decided, according to a dispatch from Knoxville, to spend \$30,000 in building a branch railroad three and one-half miles long from Oliver Springs to the company's 7000-acre tract of mineral lands.

Eugene Wharton of New York has been elected president; F. M. Reynolds of Keyser, vice-president; E. B. Reynolds of Keyser, secretary, and Thomas G. Pownell of Cumberland, treasurer, of the Potomac & Potomac Railroad, which is to extend from Keyser to Petersburg, W. Va.

The Parkersburg Interurban Railway, the Parkersburg & Marietta Railway and the Parkersburg Electric Light & Street Railway companies have been consolidated, with the name of the first company mentioned, and with the purpose of completing the line from Parkersburg to Marietta.

Directors of the International & Great Northern Railroad will apply to the Texas railroad commission for authority to issue bonds to the amount of \$25,000 per mile on the Calvert, Waco & Brazos Valley Railroad, so as to finish the construction of that road from Spring to Fort Worth.

The board of directors of the Seaboard Air Line Railway has been increased in number from eight to twelve, and Messrs. J. M. Barr of Portsmouth, Va.; F. R. Pemberton of New York, E. B. Addison of Richmond, Va., and George W. Watts of Durham, N. C., have been elected additional directors.

Members of the Southern Railway engineering corps have been at Tuscaloosa, Ala., for the purpose, it is stated, of surveying the road for an extension of a branch road of the Mobile & Ohio system by which Tuscaloosa will be put in touch with Searles, the mines of the Central Iron & Coal Co. and Brookwood.

It is stated that rails for thirty-five miles of track have been ordered by the Greenville & Piedmont Traction Co. The company proposes to build a broad-gauge road, upon which either steam or electricity may be used, connecting Greenville, S. C., and Piedmont, and that it may be extended to Pelzer at Williamston.

The New Orleans & Pontchartrain Railway Co., organized with a capital stock of \$350,000 to operate railroads in St. Bernard, Orleans and Jefferson parishes, Louisiana, is, it is reported, to consider at a special meeting next month a proposition looking to the acquirement of the property, franchises, etc., of the Orleans & Jefferson Railroad Co.

The shipments of pebble phosphate from Punta Gorda, Fla., for the month of July by the Peace River Phosphate Mining Co. amounted to 9015 tons, of which 1720 tons were domestic and 7295 tons foreign; amount previously reported for the six months ending June 30, 24,205 tons, making a total for seven months of 33,220 tons, of which 17,095 tons were domestic and 16,125 tons foreign.

TEXTILES.

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

Correspondence relating to textile matters, especially to the cotton-mill interests of the South, and items of news about new mills or enlargements, special contracts for goods, market conditions, etc., are invited by the Manufacturers' Record. We shall be glad to have such matter at all times, and also to have any general discussion relating to cotton matters.

Cotton for Russia.

United States Consul Thomas Smith at Moscow reports that during the year ended April 1 last the amount of cotton shipped into European Russia via Krasnovodsk from Central Asia was 233,556,779 pounds. He adds:

"The production of cotton in Central Asia is increasing every year. The government and the cotton consumers are assisting the planters to improve the cultivation, so as to compete with American cotton in European Russia. The planters have now almost learned to prepare the cotton by the American system, and receive very high prices. The seeds are imported from the United States. The Russian consumers prefer to buy the Central Asia cotton, as it is packed in small bales, the same as Egyptian. I have been informed by some of the largest cotton consumers in my district, which is in the center of the cotton manufacture of Russia, that in time they will all avoid buying American cotton, in consequence of its being packed in large bales (the old system), since in the transportation of the same there is always a loss of from 8 to 10 per cent. in weight. This is a very important question for American producers. The Russians have often made complaints, but no notice has been taken of them. All American cotton is shipped to Russia through brokers in Liverpool and other ports, who are not interested in the proper packing and endure no losses in the transportation."

Alpha Mills Expending \$250,000.

The Alpha Mills of Charlotte, N. C., has just completed remodeling its plant and changing it from a yarn to a weaving mill, so that either twisted yarns or cloth can now be produced. The company is building a new mill, dimensions 100x208 feet, two stories high, and will put in at once 7000 spindles and 160 looms. Then the company will have floor space, including old mill, for 20,000 spinning spindles, 3000 twister spindles and 500 looms. About \$150,000 is being expended now, and in a short time about \$100,000 more will be spent for new machinery. When all the improvements have been made this will be one of the most complete mills in the South for making twisted yarns, 30s to 50s, and for weaving fancy cloth, such as satens, lenos, madras cloth and momic cloth. All the looms are arranged for dobby work, which is said to be quite an innovation in the mill's section of country.

A \$10,000 Knitting Mill.

The Alexandria Hosiery Co. of Alexandria, Va., has been organized, with capital stock of \$10,000, and William Schwarzman, president; Arthur Schwarzman, treasurer, and Samuel Stokely, secretary and superintendent. This company has purchased site at Wilkes and Pitt streets, where it will erect building to be equipped with machinery for the production of hosiery. Machinery has been ordered and the plant will employ twenty-five hands. A dyehouse will be established later on.

Textile Notes.

Langley Manufacturing Co. of West Point, Ga., is improving its plant, adding new machinery and introducing new product.

The Mossy Creek (Tenn.) Woolen Mills has changed its title to the Jefferson City Woolen Mills and increased capital stock from \$30,000 to \$50,000.

Messrs. Margolin & Co., Citizens' Bank Building, Norfolk, Va., will build a plant for the production of cotton bagging and ties. They have purchased site for the plant.

The establishment of a mill for manufacturing cotton rope is contemplated at Lumber, Texas, and W. S. Jackson is interested. Mr. Jackson invites prices on the equipment necessary.

It is rumored that Capt. J. M. Odell of Concord, N. C., and associates contemplate erecting a million-dollar cotton mill on the Catawba river, near Hickory, N. C., electrical power to be utilized.

The Northern parties reported as investigating at Huntsville, Ala., for cotton-mill site will doubtless locate a plant. They will visit the town again soon. The intention is to manufacture drills.

The Waldensian Hosiery Mill at Valdese, N. C., has completed its plant and commenced operations, producing eighty dozen pairs of men's, misses' and ladies' hose daily. Fourteen knitting machines are in position.

Glenn-Lowery Manufacturing Co. of Whitmires, S. C., is progressing steadily with the construction of its plant that is to have 25,000 spindles and 650 looms. The walls of main building are completed, and operatives' cottages are being built.

L. A. Vaughn of Winston-Salem, N. C., will establish a plant for knitting children's union suits and ladies' ribbed underwear. The required machinery has been ordered, and the plant is expected to commence operating by September 1.

Chadwick Manufacturing Co., Charlottetown, N. C., is progressing steadily with the construction of its plant. The buildings are about completed, and the machinery is being placed. There will be 12,200 ring spindles and 204 looms, making a \$260,000 company.

Messrs. Calder B. Willingham and Broadus E. Willingham of Macon, Ga., have purchased the Porter Cotton Mills near Clarksville, Ga., and will continue operation of the plant. There are 2000 cotton and 3400 woolen spindles now in place, and improvements will be made to modernize the entire mill. The net capitalization will be \$100,000.

It is said that the Gainesville (Ga.) branch of the Paolet (S. C.) Manufacturing Co. is ready for operation with the single exception of installing one engine. The mill will produce standard sheeting, and is expected to commence producing in October, employing about 500 people. The machinery capacity is for 50,000 ring spindles and 2000 looms.

The Oriental Textile Mills of Houston Heights, Texas, was reported some months ago as incorporated, with capital stock of \$100,000, by Messrs. Samuel E. Allen, Isaac W. Walker, John S. Radford, Joseph B. Bowles and Fred C. Robertson. This company has since erected and equipped a plant for the manufacture of press cloths used in cottonseed-oil mills, and 150 hands are employed.

It is announced that the American Locomotive Co. has authorized an expenditure of \$100,000 for improvements in the way of electrical appliances and new machinery for the works at Richmond, Va., increasing the output to ten heavy engines a week.

COTTONSEED OIL.

This department is open to the full and free discussion of trade topics and practical questions, and contributions are invited from men who are identified with this industry. Items of news are always acceptable.

Important Moves in the Cotton-Oil Trade.

The stock of the Southern Oil Co., which was recently increased from \$2,000,000 to \$11,000,000, will provide that company with \$9,000,000 of actual cash, which the Manufacturers' Record understands has been secured for the purpose of enlarging its operations and taking in the mills recently bought by the Virginia-Carolina Chemical Co. This latter company now owns the Southern Oil Co., and when the additional \$9,000,000 of stock is issued, that will also come into the possession of the Virginia-Carolina Company through an exchange of stock already authorized by the stockholders. With this \$9,000,000 of new capital the Southern Oil Co. will not only pay for the mills bought by the Virginia-Carolina Company, but will build a number of new mills. Doubtless, in order to be prepared for any emergency in view of these important schemes, the American Cotton Oil Co. is preparing to make some move, but just what it is has been closely guarded. A call has been made for deposits of its stock to be pooled under an agreement that it shall not be sold for less than \$105 for preferred and \$60 for the common, but whether this is to prevent other people securing a control or whether it is in order to be ready for a deal cannot be learned. There is a rumor that this company also will build a large number of new mills for the purpose of still further strengthening its hold on the oil trade.

Cottonseed-Oil Notes.

The Arkansas Valley Cotton Oil Co. of Dardanelle, Ark., has increased its capital stock from \$25,000 to \$60,000.

The Southern Cotton Oil Co. last week filed papers increasing its capital stock from \$200,000 to \$11,000,000. The papers were signed by Samuel T. Morgan, president, and Alan H. Harris, secretary.

The Blacksburg Cottonseed Oil Mill at Blacksburg, S. C., has been chartered, with a capital stock of \$15,000. The incorporators are D. R. Bird, A. H. Pollock, J. C. Ross, W. H. Hardin and J. F. Whisonant.

The Houston Cottonseed Oil Co. of Houston, Texas, received last week the first car of new crop cottonseed to move this season. Beeville, Texas, was the shipper. The seed was of excellent quality, and the outlook for obtaining a much better quality of seed than last season is very promising.

The Merchants and Planters' National Bank at Bryan, Texas, has sold a half-interest in the Bryan Cottonseed-oil Mill to parties at Waxahachie and other North Texas points. Mr. R. J. Patterson will take charge of the plant, which is being placed in thorough repair for the cotton season now opening.

The cottonseed-oil market in Texas has ruled rather quiet, but there is a stronger undertone present, and values continue nominally steady. Prime crude oil, loose, is still held at 24½ to 25 cents per gallon, and prime summer yellow, 28 to 29 cents f. o. b. mill; prime cottonseed meal, \$20 to \$21, and prime cottonseed cake, \$19.75 to \$20.50 per ton delivered at Galveston.

It is reported that the Dawson Oil Mills of Dawson, Ga., has been purchased by the Southern Cotton Oil Co. It is understood that the price paid was

\$47,500. Mr. D. A. Carter will act as manager for the new company. It is stated that the Southern Cotton Oil Co. has also purchased the McBurney Oil and Fertilizer Works at Warrenton, Ga., and the oil mills at Waynesboro.

The following are official quotations on cottonseed and cottonseed products as posted at the New Orleans Cotton Exchange on the 5th inst.: Prime refined oil in barrels, 36 to 37 cents per gallon; off refined oil in barrels, 35 cents per gallon; prime crude oil, loose, nominal per gallon; prime cottonseed cake, \$23.50 per ton of 2240 pounds; off do., nominal; prime cottonseed meal, \$23 per ton of 2240 pounds; off do., nominal; soap stock, loose, 1 cent per pound; linters, per pound, choice, 3¼ cents; A, 3½ cents; B, 3¼ cents; C, 3 cents; cottonseed in sacks delivered in New Orleans, nominal per ton of 2000 pounds; in bulk delivered in New Orleans, nominal per ton of 2000 pounds.

An Exchange Directory.

The latest addition to the library of business handbooks is the International Directory of Exchange Members, published by the Financial Advertising Co. of 25 Broad street, New York, at \$3 per copy. It is the official list of all the principal exchanges and commercial bodies in the United States, England and the Continent of Europe. The book contains over 30,000 names of brokers and business men in good standing on their respective exchanges.

This directory has a complete membership register of New York stock exchanges arranged alphabetically, and given after each name is the organization of which he is a member. It also contains the co-partnerships of the New York Stock Exchange and a list of the exchanges of all the principal cities in the United States, the members of the London Stock Exchange, Liverpool Cotton Exchange, Paris Bourse, Paris Chamber of Commerce and other principal commercial bodies in European cities, and in compact form the principal railway companies of the United States, with mileage, capital, bonded debt, main office and transfer office. There is an appendix containing the banks of the principal cities of the country, with their capital, surplus and officers.

The World's Work for August gives up most of its space to the Pan-American Exposition, making a large and handsome souvenir number. The description and interpretation of the exposition within and without are strikingly interesting and valuable. Mr. Walter H. Page, the editor of the magazine, gives a vivid picture of the outside of the fair—the spectacle, the illumination, the architecture, sculpture and color, and the cosmopolitan crowds that visit Buffalo. Charles H. Caffin writes of the significance of the exposition as a work of art, giving an estimate, among other things, of the Fine Arts Building. The Wonderful Story of the Chaining of Niagara—how the power from the Falls runs nearly everything in motion on the grounds—is told by Orrin E. Dunlap.

The phosphate shipments of high-grade Florida rock from Savannah for the month of July amounted to 7694 tons; amount previously reported for the six months ending June 30, 77,574 tons, making a total for seven months of 85,268 tons. The Dutch steamship Leonora cleared on the 2d inst. with 2194 tons for Genoa.

The manufacturing enterprises of Spalding county, Georgia, show an increase in the value of property of \$196,350 over last year. The property value in the county increased \$235,073, of which \$211,291 was at Griffin.

PHOSPHATES.

PHOSPHATE COMBINE.

Mt. Pleasant (Tenn.) Companies to Sell Their Holdings, Embracing 55 Per Cent. of the Rock in Tennessee.

The scheme of consolidation of the interests of various phosphate companies at Mt. Pleasant, Tenn., which has been under consideration for some time, became prominent on the 31st ult., creating considerable excitement in phosphate circles in Tennessee. Telegrams were said to have been received at Mt. Pleasant from the promoters, notifying the property-owners that the deal had been closed. The Mt. Pleasant Chronicle of the 2d inst. has the following in regard to the reported deal: "On last Wednesday morning many rumors were circulated here and in Columbia to the effect that the consolidation of the Tennessee phosphate fields had been effected; in fact, it is understood here that several of the leading phosphate companies, including the International, Bluegrass, Columbian, Howard, Ridley, Jackson and others, received telegrams that day from the Philadelphia gentlemen, Messrs. Rogers and Gray, who have been at work on the consolidation. The contents of these telegrams have not been made public, though it is rumored here and in Columbia that they stated that the deal was completed, and that the engineer would be here next week to begin prospecting according to the options. Whether or not these reports are true we are unable to state." Leading phosphate men at Mt. Pleasant regard the report that a deal has been closed with considerable doubt, and do not look upon it as a certainty. The opinion prevails, however, that the deal will finally be consummated.

Baltimore brokers who have been approached by a representative of the Manufacturers' Record give it as their opinion that the consolidation of these companies, now nearing completion, will be a great factor in maintaining prices and strengthening the market. Some particulars of the deal have been received in Baltimore, of which the following are leading points: "The price to be paid by the purchasers is based on the tonnage of rock held by each owner; that engineers are to make estimates of quantities in each tract, and the purchasers are to pay for it eighty cents per ton in the ground. The estimates of quantities in the inside field (near the railroad) is put at about 2,250,000 tons.

"The purchasers are, it is understood, also to take the rock already mined at the cost of mining, with the eighty cents royalty added, which will run it up to about \$2.50 per ton. Of this mined rock there is estimated to be from 50,000 to 60,000 tons, so that the aggregate of the transaction will likely reach somewhere between \$2,500,000 and \$3,000,000."

The companies not involved in the deal are estimated to have in the neighborhood of 2,000,000 tons of rock; thus the transaction includes about 55 per cent. of the tonnage in the Mt. Pleasant district.

Phosphate Markets.

Office Manufacturers' Record,

Baltimore, Md., August 7.

There is a slightly better tone to the phosphate market, and local operations during the past week have been of better volume. There is some demand for Tennessee rock, and values for this product seem to show a more hardening tendency. Manufacturers, however, are not making heavy purchases, but take sufficient for immediate wants. The following phos-

phate charters were reported during the week: Steamer Fernlands, 1294 tons, from Tampa to United Kingdom or Continent on private terms, prompt; schooner Anna Pendleton, 521 tons, from Cartaret to Baltimore at 80 cents; British steamer Thurston, 1178 tons, from Port Royal to United Kingdom or Continent on private terms, prompt, and British steamer Harworth, 1581 tons, from Fernandina to Rotterdam at 14½, August. At points of production in the Southern phosphate belt mining is being vigorously pursued, and the market at all points is very steady, with holders not disposed to make future contracts at present figures. In the Tennessee field the market is stronger, both for domestic and foreign rock, and the various companies engaged in mining are working harmoniously, the result showing better demand and a hardening of values. The output of Florida rock for July was better, and the demand from abroad more pronounced. Shipments from Tampa for July amounted to 39,263 tons, Punta Gorda 9000 tons, Fernandina 11,300 tons, and Savannah shows shipments of high-grade Florida rock for the seven months ending July 31, 1901, of 85,268 tons. The market in South Carolina shows a steady tone, while operations in mining are being carried on with unusual enterprise. There is already more foreign demand for South Carolina rock, while domestic markets are taking moderate quantities.

Fertilizer Ingredients.

The ammoniate market has ruled fairly active in certain lines, and the volume of business last week was about a good average for this period of the season. There is some demand from the South, and Eastern buyers have been in the market for some good round lots. Messrs. Thos. H. White & Co., in their circular for July, have the following comments on the market: "July passed without any important transactions being reported in ammoniates, and with no material change in prices. There was a fair demand from the East, but Southern buyers are hesitating, and show disposition to trade only at prices much below sellers' demands. At the close prices are firm, with indications of slightly lower prices on blood. The fish catch on the bay is liberal."

The following table represents the prices current at this date:

Sulphate of ammonia (gas)...	\$2 67½ @ 2 72½
Nitrate of soda, spot Balto...	1 85 @ 1 90
N. York...	1 85 @ —
Blood	2 27½ @ 2 30
Azotine (beef)	2 35 @ —
Azotine (pork)	2 35 @ —
Tankage (concentrated)	2 20 @ 2 22½
Tankage (9 and 20)	2 30 & 10½ @ 2 35 & 10
Tankage (7 and 30)	20 00 @ 21 00
Fish (dry)	27 50 @ 30 00

Phosphate and Fertilizer Notes.

From Tampa, Fla., during July 39,263 tons of phosphate rock were shipped, valued at \$39,839.

The shipments of Tennessee phosphate rock from Pensacola for the month of July amounted to 7563 tons.

The F. S. Royster Fertilizer Co. of Columbia, S. C., is building a large plant to make acid, acid phosphate and mixed fertilizers. The plant will have an annual capacity of 30,000 tons of fertilizer.

It is stated that the fertilizer plant of Adair & McCarthy Bros. of Atlanta, now under construction near East Chattanooga, Tenn., will begin operations in October next. Its capacity will be 15,000 tons of fertilizer per year.

Shipments of phosphate rock are at present very active at Fernandina, Fla. The railroad yards are crowded with cars of rock, and side-tracks to Yulee are also full. During July the total shipments of phosphate rock amounted to 12,350 tons, of which 1050 tons were coastwise and 11,300 foreign.

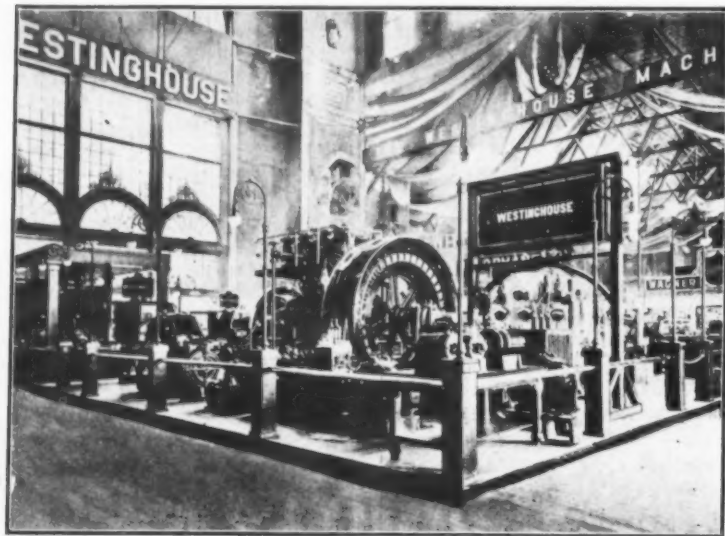
MECHANICAL.

Some Features of Interest at the Pan-American Exposition.

Well worthy of the Pan-American Exposition as a whole are the exhibits of the Westinghouse Companies. It was in a broad and liberal spirit that these companies decided to make an exhibit at the Pan-American, for in the city of Buffalo and vicinity the Westinghouse Electric & Manufacturing Co. alone has over

strings of Nernst lamps festoon off from a large 2000-candle-power lamp placed in the center. There are over one hundred 400-candle-power Nernst lamps that contributed to this illumination, which is the first public exhibition of the Nernst lamp in America, and a notable introduction of one of the greatest developments that has been made in electric lighting.

The operation of two gas-engine generating sets is one of the features of greatest interest in the Electricity Building. The large unit consists of a 300-



WESTINGHOUSE EXHIBITS IN ELECTRICITY BUILDING.

150,000 horse-power of electrical machinery in operation, including the ten 5000-horse-power generators which this pioneer electric company installed at Niagara Falls at a time when the largest electrical machine built was about 2000 horse-power in capacity. It is this installation that has made possible the most brilliantly lighted of expositions, and contributed so successfully to its operation.

Almost every traveler by rail knows that his safety and comfort are in a large measure due to the Westinghouse air-brake, which for thirty years has been the standard appliance for arresting the motion of trains. One million two hundred and fifty thousand of these brakes are now in service throughout the world. Those familiar with engineering affairs are acquainted with the very extended use of the steam and gas engines built by the Westinghouse Machine Co. Those who use electrical machinery, whether for lighting, power or traction, know the apparatus built by the Westinghouse Electric & Manufacturing Co. Equally well known are Church, Kerr & Co., whose work practically covers the entire field of engineering as applied to power systems and their application to transportation, lighting and industry; the Union Switch & Signal Co., manufacturer of every known variety of automatic and semi-automatic railroad signals, maker of frogs and switches and of mechanical, pneumatic and electrical interlocking mechanisms of all kinds; the Sawyer-Man Electric Co., maker of incandescent lamps, whose product has been on the market for over twenty years. These are the remaining Westinghouse Companies which have joined in a common exhibit.

Beneath the central dome of the Electricity Building, and to the right and left of the main entrance to the Railway Exhibits Building, occupying in all over 6000 square feet of space, and truly representing the progressive spirit of this century, the exhibits of these companies have been placed. The dome of the Electricity Building is tastefully draped with hanging green and lavender bunting, making a background upon which numerous

horse-power three-cylinder four-cycle gas engine direct-coupled to a 2200-volt two-phase revolving field alternator. The smaller unit is a three-cylinder four-cycle gas engine direct-connected to a 125-volt direct-current generator. The power furnished by the large unit is employed partly in supplying current to 130 Nernst lamps at 220 volts, and partly in operating numerous Westinghouse induction motors applied to stationary service. The small gas-engine generating set is used for exciting the large alternating-current generator, for lighting the switchboard and for charging the storage-sparking outfits for both gas engines. It is used also for operating the motor-generator outfit and for lighting four large electric signs, two of which are placed over the main entrances of the Electricity Building. The switchboard for controlling these generators is equipped with the latest type of measuring instruments, switches, circuit-breakers and auxiliary apparatus. Other standard switchboards for lighting and power service are in place.

One of the most novel attractions in the Electricity Building is a high-voltage sign. It consists of two large glass plates, covered on the back with metal foil, with the name "Westinghouse" in its center. An alternating pressure having a maximum of 40,000 volts is applied between the foil on the back and the metal letters on the front. As the potential is raised a fringe of violet light appears about the letters, which, gradually increasing in intensity, culminates in a myriad-branched lightning discharge that plays continuously over the surface of the plate and is accompanied by a continuous crash not unlike thunder.

Among the railway motors included in the railway exhibit are a Westinghouse 56 motor, for heavy suburban and inter-urban service; a 50 C, for heavy railway service, and a 69 motor, for city and suburban service. There are also a large number of Type "C" induction motors, adaptable where constant speed is required, and of variable speed. The Type "F" motors are provided with collector rings, which serve to carry the induced

currents of the secondary to an adjustable external resistance, whose operation controls the speed of the motor. The company also exhibits a complete line of detail apparatus, including motors, lighting arresters, fuse blocks, switches, circuit-breakers, etc.

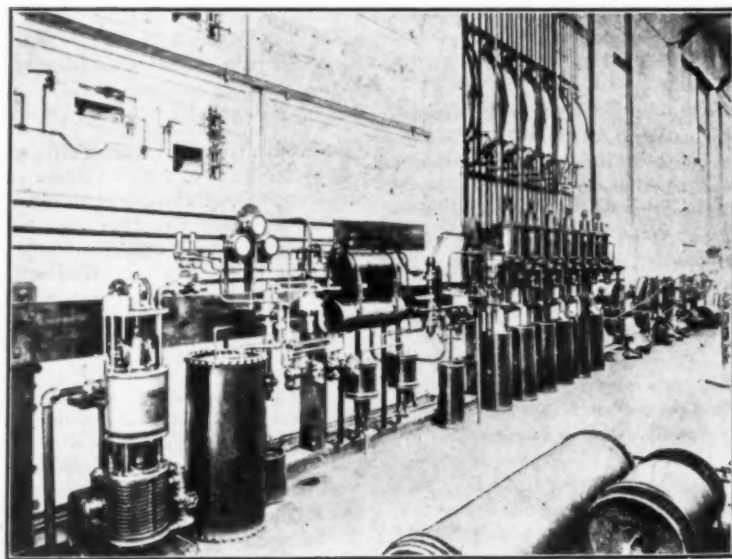
Passing to the Railway Exhibits Building, which is properly defined as containing all flanged-wheel exhibits, in the southeast end of this building is located the exhibit of the Westinghouse Airbrake Co. A rack representing a six-car train, including the locomotive, is equipped with the high-speed brake. This installation of an apparatus now coming into general use shows the proper method of application and operation. An attendant is present, who operates it and fully explains its merits. Each part is duplicated and cut in section, and connected in tandem to its relative part, so as to show every feature of its application. One of the interesting features of this arrangement is the nine-and-one-half-inch air-pump tophead, cut in section and working in unison with the tophead on an operating pump, showing in detail the movement of the very simple valve motion of this device. The air is supplied by four motor-driven duplex air compressors, which are also part of this exhibit. These compressors are especially adapted to supply compressed air for airbrakes on electric motor vehicles, as well as various other industrial uses. A complete equipment of both the straight air and the storage system of airbrakes for electric cars is so arranged on the platform as to show their application to the car.

The American automatic slack adjuster, in addition to being shown in connection with the six-car high-speed brake train, is also attached to the cylinder on a neatly-designed model engine truck, likewise a model locomotive frame with three pairs of drivers connected, and a complete equipment for a passenger car. These models are so designed as to show the proper method of applying this device to the standard equipment, and its opera-

The rapid increase in the size of cars, trains and motive power has increased the breakage of draft gear to an enormous degree. Many attempts have been made to lessen the large shocks incidental to the operation of heavy cars and locomotives, but at the present time none have as successfully met these requirements as the Westinghouse friction type, which enables an engineer to handle a heavy freight or ore train with perfect security and with the maximum power of his engine. The gradual absorbing of the shocks and the practical freedom from spring reaction which the Westinghouse friction draft rigging gives makes it nearly impossible, even in severe service, to break a train in two or to break its draft gear. The great saving power of this device is at once apparent when it is recollected that from 30 to 70 per cent. of all crippled cars owe their condition to defective draft rigging.

The Westinghouse electric brake and car-heating apparatus, shown in full operation at the exhibit, more nearly approximates the ideal brake for electric cars than any other appliance heretofore invented. The apparatus consists of two elements, a brake and a car-heater. The brake may be installed and used independently of the heater, but the operation of the heater is dependent upon the use of the brake, the produced heat being derived from energy that would otherwise be wasted. This combination of a magnetic track brake with a wheel brake of maximum power produces a braking effect greatly in excess of any heretofore attained. Moreover, cars equipped with the complete apparatus are heated without using the line current, and therefore without cost for the electrical energy employed in heating. This system is shown in operation in two exhibits.

The Westinghouse automatic air and steam coupler, as its name indicates, is so designed that the air and steam pipes usually carried underneath the cars are coupled automatically whenever the cars themselves are coupled, and with



WESTINGHOUSE EXHIBIT OF HIGH-SPEED BRAKE FOR SIX-CAR PASSENGER TRAIN.

tion in automatically regulating the brake-piston travel.

The Westinghouse friction draft gear, suitably mounted on full-size models of draft rigging, which show its application to different forms of cars, both of the wooden and the pressed-steel type, is on exhibition. There are also on view complete full-sized apparatus cut to show in detail its mechanical construction. This simple but effective attachment for the draft gear of cars should be examined by all railroad men, as it is one of the most valuable inventions of the present time.

even greater certainty, there being no locks, catches or other parts which require manipulation by the trainmen. In coupling it is only necessary to push the cars together, and when uncoupling to pull them apart. This device permits cars to be coupled or uncoupled with the maximum rapidity and certainty, and makes it unnecessary for trainmen to go between the cars. Arrangements are provided for opening and closing, from the side of the car or the platform, the cocks in the train pipes. A pictorial representation of the development of the

power brake from the earliest forms of hand brakes is an interesting feature of the Westinghouse Airbrake Co.'s exhibit. These pictures, some of them of almost full size, are arranged chronologically, so that the progress made by each improvement is readily seen, and the complete advance in the art of braking railway vehicles from the most primitive to the most modern methods is clearly shown.

The space occupied by the Union Switch & Signal Co. is located just west of the Westinghouse Airbrake Co.'s exhibit. It contains three of the most important signalling systems owned and manufactured by it—the Westinghouse electro-pneumatic interlocking and signalling system, the "wireless" system of automatic electric block signalling, and the high-speed electric train staff system. The electro-pneumatic exhibit is located at the west end of the space, and consists of a two-level section of the latest pattern, electro-pneumatic interlocking machine, a double-arm iron-post signal, a dwarf signal and a switch-and-lock movement operating a single switch point, complete with detector bar, rocker shaft, electric switch, valve cylinder, etc. These appliances are connected and working. They represent a part of the signalling required for a single-track main-line turnout. Sections of some of the principal parts are also displayed. The working of the wireless system of automatic electric block signalling is shown on a model track fifty feet long, divided into two blocks and representing one line of a double-track railway, with a side-track connected at both ends for returning the model engine or car without running against traffic. The switch at the west end is also equipped with a switch instrument and indicators to illustrate the protection provided against misplaced switches or trains from sidings entering on or fouling the main track. Two of the Union Switch & Signal Co.'s latest type of electric Style B semaphore signals, a single and double arm, are operated automatically from the model track, and the complete exhibit shows plainly the working of automatic home and distant block signals under the wireless systems.

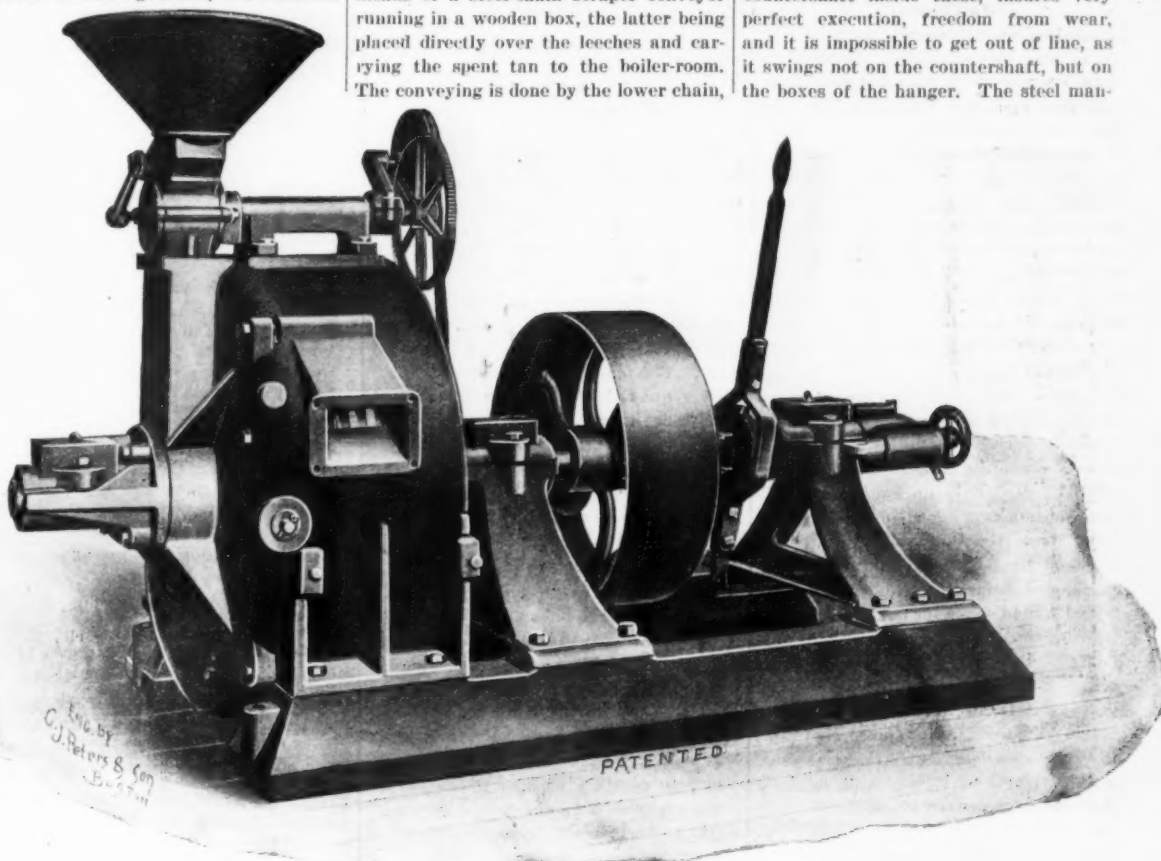
Several of the separate appliances used in this and other systems are on view, including semaphore mechanisms and motors, battery chutes, relay boxes, cranks, wheels, jars, etc. Two of the high-speed electric train staff instruments, connected and working, show the practicability of operating trains on single-track railroads by means of this system, and without the use of train orders. Photographs and drawings of various appliances and plans built and installed by the Union Switch & Signal Co., together with a view of its new and greatly enlarged works at Swissvale, Pa., are also a part of the exhibit.

Grinding Phosphate Rocks.

Fertilizer manufacturers have long sought an efficient, inexpensive grinder for phosphate rock. This material, being comparatively soft, should not require an expensive machine. The Sturtevant Mill Co. of Boston, the well-known manufacturer of this class of machinery, now makes a vertical rock emery mill at a very moderate price, and its large output has caused its immediate introduction by many large producers. This machine is shown in the cut, and is an improved emery mill of a much larger size than any heretofore constructed. It was designed especially for phosphate rock, and is capable of grinding from five to seven tons per hour to 60 or 80 mesh.

Its simple and convenient design commends it to everybody, and it can be run by inexperienced men. The wear and

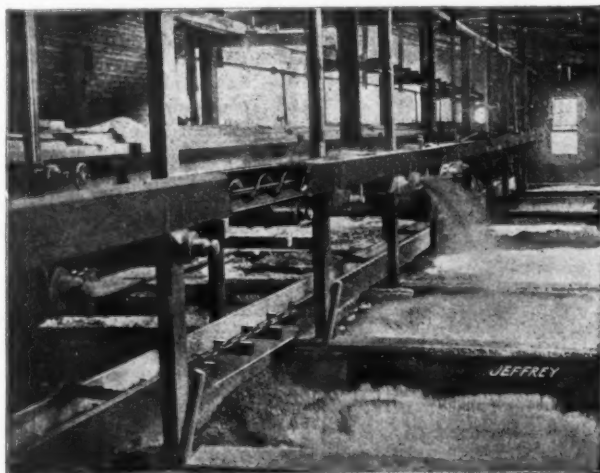
tear are almost entirely confined to the emery stones, which are favorably known to thousands for their remarkable durability and cutting properties. Their advantages are well known, and that they are in use in over 1500 works, many of the largest size, and where they have displaced all other grinders, is a sufficient



VERTICAL ROCK EMERY MILL.

certificate of excellence. This rock emery mill is self-contained; it delivers a finished product direct from the machine without screens; it needs no foundation other than a good mill floor, and it will run smoothly. The machine is complete, ready for belting when it leaves the Sturtevant shops. Its friction clutch stops or starts the mill. It is provided with a

the upper being returned overhead. In some cases, where the conditions are favorable, the chain conveyor can be made to do double duty—that of carrying the dry tan to the leeches and the spent tan to the furnaces. For catalogues address the Jeffrey Manufacturing Co., Columbus, Ohio, maker of the conveying system shown.



JEFFREY TANBARK CONVEYOR.

special roller feed, which supplies a regular amount of material.

The Sturtevant Mill Co. has just issued an 80-page illustrated circular fully describing this machine, together with many more of its manufacture. It will prove interesting to those who use this class of machinery. The manufacturer will be pleased to forward it on application.

Jeffrey Tanbark Conveyors.

The illustration is given herewith of a system of conveyors for handling dry and spent tanbark in the Schauwaker Tan-

An Improved Swing Saw.

This is a machine for general work that possesses the requisite qualifications to make it prove of advantage to any who have use for such a tool, and who will carefully examine the merits and points of advantage embodied in its construction. Among the features on this machine which make it superior in range of work and workmanship to any of its class at present on the market are the following:

The patent adjustable balance-weight, the way it is attached and manner of

operation gives the machine great advantage for doing rapid work, as it helps the operator both ways, and when the cut is finished swings the saw clear off the lumber without any effort on his part. The hangers are perfect. The frame swinging on the outside of the boxes, with the countershaft inside these, insures very perfect execution, freedom from wear, and it is impossible to get out of line, as it swings not on the countershaft, but on the boxes of the hanger. The steel man-

drel is fitted with an expansion device to fit blades with different holes. The patent shield on the saw prevents all possible accidents. The frame of the machine being broad at the base, insures great accuracy.



IMPROVED SWING SAW.

Further particulars of this machine, together with terms, will be willingly furnished by the manufacturer, J. A. Fay & Egan Co. of Nos. 270 to 290 West Front street, Cincinnati, Ohio.

Shipments of 5000 tons of coal monthly for an indefinite period have begun by the Bessemer Land & Improvement Co. from the Belle Ellen mines in Alabama through Pensacola to Galveston.

LUMBER.

[A complete record of new mills and building operations in the South will be found in the Construction Department.]

LUMBER MARKET REVIEWS.

Baltimore.

Office Manufacturers' Record,
Baltimore, Md., August 7.

In the local lumber trade the operations of the past week have been moderate, and while the vacation season is on, a number of leading manufacturers being absent, there is still a fair volume of trade reported. The demand for lumber of most descriptions seems to be fully up to the standard at this period of the season, and as the autumn approaches a firmer tone to values seems to be apparent. In North Carolina pine the market continues to improve, with prices showing a higher range. The inquiry for North Carolina pine from both domestic and foreign sources is fairly active. Georgia pine is in good supply, with values steady. In spruce and cypress there is more business reported, with prices unchanged. White pine continues in good demand, with stocks ample for all requirements. The hardwood trade shows better form, and the demand from furniture manufacturers and wagon shops for oak, ash, walnut and other commercial woods is more pronounced. Stocks of dry lumber are not excessive, and at all milling sections in West Virginia and Tennessee lumber is held at outside figures. The foreign lumber exporter is doing but little at present, as the markets of Europe still continue very quiet and somewhat unsettled.

Jacksonville.

[From our own Correspondent.]
Jacksonville, Fla., August 5.

The lumber industry in this section is of a very healthy character, and in nearly all lines of trade shows a most encouraging volume of business. At all the Florida ports the lumber industry is growing to be one of great importance. The rapid development of pine and cypress timber lands throughout the State and the recent sales of hardwood timber lands, which will be at once developed by the erection of mills and other wood-working plants, has attracted buyers from Northern markets until at the moment the operations at Florida ports foot up large amounts yearly. The business of this port shows a remarkable increase in many departments of the lumber trade, and the various mills now operating are all well supplied with orders. Prices of the various grades of lumber continue to rule firm, and under a brisk local demand from builders, with a strong inquiry from Northern and Eastern sections, there is a good prospect of higher prices during the early fall and winter months. During the month of July the total volume of business in lumber was rather lighter than usual. The shipments of lumber, including foreign shipments, amounted to 9,384,812 feet of yellow pine, there being no shipments of cypress lumber during the month. The shipments of cross-ties reached 35,500, and of shingles 1,024,000. The coastwise business from this point is now very extensive, and in lumber the Clyde Line steamers are carrying out large consignments each trip. The new steamer Arapahoe, the latest addition to this line of steamers, is expected to arrive this week, and with the Apache, her sister ship, will join the favorably-known vessels Comanche, Iroquois and Algonquin. At the port of Fernandina the record of trade in wood products is showing some encouraging features. Receipts of lumber at that port are growing larger each year, while the

shipments of lumber for the month of July reached 9,893,567 feet, of which 2,100,651 feet were foreign and 7,792,916 coastwise. The coastwise shipments also included 200,000 shingles. Lumber freights are steady, with a moderate offering of sail vessels. The schooner Lottie R. Russell, 363 tons, was taken to load at Fernandina for Newark, N. J., at \$6 and towage, 40 M feet a day.

Mobile.

[From our own Correspondent.]
Mobile, Ala., August 5.

There is very little snap or vigor in the timber market here at the moment, but holders are firm in their views, and are asking 11½ to 12 cents for sawn, while the market for hewn timber is dull and nominal. Holders of timber are looking for 14 cents for sawn in the early autumn, and are sinking large quantities of timber to preserve it for next season's shipment. The market for timber in Europe is very quiet, but later on it is expected that prices may be better. The London Timber Trades Journal of the 27th ult., in reviewing the timber market, has the following in regard to pitch pine: "We have very little to say about the pitch-pine trade. The market seems to be exceptionally quiet, and shippers not having tonnage fixed at the loading ports or floating cargoes to offer are practically at a standstill. We cannot hear of any recent sales, which is somewhat unusual at this time of the year. As soon as the large stocks on this side are worked down to an easier level it is expected that prices will stiffen. The consumption generally seems to continue brisk, and in the absence of fresh arrivals things all round ought to become stronger." In the local market hewn oak is in limited demand at 15 to 18 cents per cubic foot, and hewn poplar at 12 to 12½ cents per cubic foot. There is a fair demand for pine saw logs at \$5 to \$8 per 1000 superficial feet. The lumber market is in fair shape, with a good demand from Cuba and Porto Rico. Mills at Pascagoula are running on full time, with orders sufficient to occupy them for sixty days to come. There is a good demand for cross-ties for Cuba, and also considerable South American demand for lumber, with several shipments to go forward within the next week or ten days. The European demand for lumber is only moderate, and holders refuse to make any concessions, either to domestic or foreign buyers. At Pensacola the market is very quiet, with very few vessels in port loading lumber or timber. The stock of sawn timber at Ferry Pass was increased about 3500 pieces last week. The stock of hewn timber remains about the same. Messrs. Fred O. Howe & Co., ship brokers at Pensacola, report the freight market for July as follows: "Since last report there is little change to note in quotations of pitch-pine freights; the market continues very dull, with but little demand. Current rates for sail are 110s. U. K. or Continent, 115s. to 120s. for small tonnage; Mediterranean, 105s. to 110s. For South America there has been some enquiry and some business completed, but the demand seems now slackening off again. We quote \$14 to \$14.50 as obtainable Montevideo, Buenos Ayres or Rio, clean character, according to size and position, proportionately more on \$2 form. Steam freights are 95s. to 105s., U. K. or Continent, according to port." The shipments from Pensacola for July were 23,628,000 feet of timber and lumber and 98,500 feet of cottonwood lumber.

New Orleans.

[From our own Correspondent.]
New Orleans, La., August 6.
The immense interests in the lumber

industry of Louisiana and Mississippi centered here is giving New Orleans a prominent place in the markets of the country, and from present indications the port is likely to maintain its position. The general course of the lumber market during July seems to indicate a continuance of activity incidental to the early autumn and winter months. An unusual demand now exists for material for local purposes and for points in the interior of the State, and at the various milling sections along the lines of railroad entering this city a strong movement is present. From Oklahoma comes an unprecedented demand for lumber for building purposes, and at all points in the interior the erection of factories and buildings for numerous purposes will consume immense quantities of material. At the yellow-pine mills the output is now materially enlarged in comparison with June and July, and the quiet tone caused by the late drouth and stringency in the money market has given way to a marked advance, while the tone of trade is steady, and is likely to rule firm during the fall and winter months. The season for logging has been favorable, the swamps being dry, and an immense amount of timber has been gotten out. In Mississippi the season has been a most satisfactory one for lumbermen, prices good, and the demand from the North and Northwest better than ever before. Mills throughout Mississippi are running as strong as they did during the spring, and the demand for yellow pine seems to be developing at a satisfactory rate for those engaged in this industry. The growth of the lumber industry in the State of Mississippi is strongly in evidence, as noted by the report of the Commercial Club of Pascagoula. The report shows that the total amount of lumber shipped and manufactured from this port during the fiscal year ending June 30, 1901, was 161,584,536 superficial feet, being an increase over 1900 of 16,703,883 feet. The situation in red cypress of Louisiana is also one of a character to encourage manufacturers. Northern markets are now taking immense quantities of this popular wood. It is stated that within the last six months the increase in the shipments of the favorite Louisiana lumber product has been nearly 33½ per cent., and it is expected that in the next six months a greater increase will be recorded. The activity in timber lands in this and adjoining States is a notable feature at the moment, and sales of Louisiana land during the mid-summer months have been larger than usual. There is a steady demand for hardwood timber, such as oak and ash. Pine land has been selling from \$10 to \$12 an acre, while cypress on the stump averages about \$1.50 a thousand. Real estate in this city is in good demand, transactions at the exchange showing a material increase over the same period last year. New buildings are going up in all directions, many of them large and modern in type, and building material is in urgent demand. The receipts of building material last week were as follows: Lumber 1,862,000 feet, shingles 38,000, oak staves 248,000 and cypress staves 29,500. The total receipts of lumber for the season amounted to 135,894,635 feet, against 101,286,115 feet last year.

Memphis.

[From our own Correspondent.]
Memphis, Tenn., August 5.

July proved disappointing to the hardwood lumber industry in the entire Memphis district, the volume of business having fallen considerably under the average for this season. There has scarcely been a July in the history of the trade at this point since the foreign markets were opened up to dealers here that there has

been so little export business put through as during the one just passed. Some of the largest firms have sent forward only a few cars, and this has been done at such prices as have not been at all remunerative, except for special order stuff. The domestic trade has had little better to offer. The manufacturers of doors, sash and blinds have taken all the cypress they could get, and this has served to give some snap to trade. There has been during the past four weeks a fairly active demand for ash, poplar and plain red oak, though outside of these no other wood has been prominently on the market as a seller. Quartered oak and plain white oak have been practically lifeless. The same is true of gum, with the exception of red, used for paving purposes. Cottonwood, while showing some activity in boxboards, has been markedly dull in commons and culls, and has shown little activity in the upper grades. There is more accumulation of stock than at the beginning of the previous month, except in ash, poplar and cypress. But there is more oak offering here, and more cottonwood and gum, than is usual at this season. Cottonwood is here in such abundance that most of the large mills are already shut down, or propose doing so. Even the box and package men contemplate shutting down their mills for the same reason. Prices have shown a hardening tendency throughout, except in some of the slower sellers, the trade here showing little disposition to shade values. There have been no advances made anywhere in the list. Very few logs have been bought by the millmen during the month, especially in cottonwood. Most of the mills in the city are running at present, though they will be forced to shut down in a short time, especially the river mills, on account of their inability to get their logs from the Mississippi up Wolf river. Most of the country mills are already closed.

Beaumont.

[From our own Correspondent.]
Beaumont, Texas, August 3.

The busy season in the lumber business for this year has begun already, hardly more than two months after the old season closed. Crops in a general sense all over the State are showing bright prospects, and there is every reason to suppose at this time that the cotton crop will be over 3,000,000 bales. These pleasing conditions have induced the farmer to buy, and the dealer has accordingly placed liberal orders. The mills have received more orders the last ten days than they can fill with anything like promptness. The opening of the government lands in Oklahoma has been a most fruitful source of lumber orders. Probably the firms in Beaumont alone have furnished over 200 carloads of lumber to that section, which, of course, is in addition to the regular demand from the regular sources. This lumber has nearly all been shipped, although the orders have not been in hand more than two to three weeks. It left here in special trains, and in single carloads. Every train that has left this section for the North for the past two weeks had a lot of Territory lumber in it. Orders from the State are numerous, and call for a large amount of planer stock—flooring, ceiling, siding, etc. Never before in many years has there been such an overwhelming demand for this class of stock. It is not caused, apparently, from any other source but the immense building operations in every city and village in the State. The result is that it is almost impossible to find a mill that can give prompt shipment on a mixed car of finishing lumber, for the rough stock from which to make it is not to be had. But there is a shortage in

almost every class of lumber; common 2x4s are scarce, 1x12 boards are very short, and the same is true of many other items. Probably at no time in the past was the price of lumber as low as it is today, viewed from the statistical standpoint. Theoretically, common lumber should be worth \$15 firm on a common-point rate, yet is selling for \$14.50; clear flooring should be \$21, but is selling for \$1 less, and so on down the line. The Western trade has quite eager enquirers for stock, but not as much business is resulting between parties as was the case a month ago. This is partly because the Texas mills have not the stock, and partly because they want more money than the Western wholesalers claim they can pay for it. But they will not get it for any less, that is certain. The writer ventures the assertion that lumber will be higher this coming autumn in Texas than it has ever been before, the phenomenal values of '98 not excepted. The actual conditions are present to justify this prediction, but it is hard to make the dealers believe that lumber can ever be scarce as a general proposition. They will admit the shortage of an item or two, but deny general shortage. Stock-sheets just coming in from the mills show a decrease so far for July, and it is not at all improbable but what there will be shown to have been a decrease during July of 5,000,000 to 10,000,000 feet. During August the shortage will be even more, for on August 1 all mills began running ten hours in place of eleven, as heretofore, which will cut down the output something like 5,000,000 to 6,000,000 feet. Those lumbermen who are accustomed to looking far into the future are husbanding their stock, assorting up their lengths and getting in shape to meet partially, at least, the enormous demand there will be for lumber; but at the same time they cannot refrain from asking themselves where the lumber is to come from to meet the enormous demand. The timber business is firm and solid as a rock for the remainder of this year, and is bringing splendid prices. Most mills have raised their timber prices recently on every item. The export business is so dead at present, as far as Texas mills are concerned, that comment is unnecessary, except with reference to the Mexican branch thereof, which is very good. Orders come in from the republic with great regularity for mining, yard and railroad stock.

Lumber Notes.

Fire in the yards of the Boeckler Lumber Co. of St. Louis on the 2d inst. destroyed property valued at \$50,000.

William R. Dillon & Sons of Livingston, Ky., have sold their saw and planing mills to R. L. Thomas of Ford, Ky., for the sum of \$10,000.

During the month of July the lumber shipments from Fernandina, Fla., amounted to 9,893,567 feet, of which 2,100,051 feet were foreign and 7,693,616 feet coastwise.

The shipments of lumber from the port of Jacksonville, Fla., for the month of July amounted to 9,384,812 feet of yellow-pine lumber, shingles 900,000 and cross-ties 35,500.

Shipments of lumber from Mobile last week were 1,262,000 feet, and for the season 100,091,322 feet. Shipments of pine sawn timber were 23,113 cubic feet for Dover, England.

The handle factory recently operated by the American Handle Co. near Sparta, Tenn., will be located hereafter at Amanda. New machinery will be added and neck yokes and pick and axe handles will be turned out.

The McIntosh Lumber Co. of Moss Point, Miss., has been incorporated, with a capital stock of \$20,000. The incorporators are J. J. McIntosh, F. Colmer and N. McJames.

Receipts of lumber at the port of New Orleans for the week ending the 31st ult. amounted to 1,862,000 feet, and for the season 135,894,635 feet, against 101,286,115 feet last season.

A new stock company is being organized at Macon, Ga., for the purpose of manufacturing wagons on an extensive scale. The promoters are Messrs. Lawson Brown and Charles Carter.

The Eureka Lumber Co. of Washington county, Tennessee, has been chartered, with a capital stock of \$10,000. The incorporators are W. S. Archer, John H. Bowman, S. C. Williams, Tate L. Evans and James A. Summers.

It is announced that the saw-mills of Beaumont and East Texas have inaugurated the 10-hour day, beginning on the 1st inst. Heretofore the working day has been eleven and one-quarter hours. The wages will remain as heretofore.

The Southern Handle Manufacturing Co. of Huntsville, Ala., and the Nixon Handle Co. of Bridgeport, Ala., have consolidated, and the latter plant will be removed to Huntsville and operated under the Southern Handle Manufacturing Co.

It is stated that Capt. Robert Jenkins of Pittsburg, Pa., has purchased 4200 acres of pine timber along the Blue Stone river, in the Kanawha valley region of West Virginia. The timber is to be used in the manufacture of coal boats, barges and flats.

It is reported that the India Lumber Co. has purchased about 250,000 acres of timber land in the counties of Clinch, Charleston and Echols, Georgia, during the past two months, and that it is still buying all the land that is available in these counties.

The Kemsore Pulp & Paper Co. of Elkton, Md., has received a large consignment of sweet-gum wood from Virginia, which the company will use in the pulp mills as an experiment. It is claimed by experts that first-class paper can be manufactured therefrom.

C. W. Robinson of Meridian, Miss., on the 1st inst. sold to F. J. Breusing of Springfield, Ill., his half-interest in the Mississippi Door Factory. The plant is valued at \$40,000, and is one of the best-paying industries in East Meridian. One thousand doors were shipped to Detroit, Mich., on the 1st inst.

The Lhote Lumber Co. of New Orleans, La., has been chartered, with a capital stock of \$300,000. The officers of the company are George Louis Celestin Lhote, president; George A. Leroy, first vice-president; George W. Kelley, second vice-president, and Jacinto Charles Alcix, secretary and treasurer.

It is stated that Dr. O. D. Jackson of Norfolk, Va., has sold to Mr. Marvin of Ohio 12,000 acres of swamp lands in Beaufort and Craven counties, North Carolina. Mr. Marvin proposes to canal the property, which is heavily timbered with cypress and gum, and establish a plant for the manufacture of staves and veneers.

Big Wheel is the name of a new post-office just established between Waycross, Ga., and Fitzgerald, on the Waycross Air Line Railroad. At this point the Dooly Lumber Co. is building a saw-mill with capacity of 60,000 feet of lumber per day, and the work is being pushed rapidly to completion. The mill will be well equipped with latest and best type of machinery.

Articles of incorporation were filed last week at Birmingham, Ala., for the Ward & Smith Lumber Co., with a capital of \$15,000. The company will do a general lumber and merchandise business. The president of the company is Thomas Ward, who for twenty years has been general manager of the Birmingham Rolling Mill Co.

The Cumberland Coal & Timber Co., owning a large tract of land in Warren and adjoining counties in Tennessee, has been merged in the Tennessee Company of Cleveland, Ohio, and capitalized at \$5,000,000. The new company owns 40,000 acres of timber and coal lands. It is stated that the new company will develop the property at once.

The operations of the Cherry Run Boom & Lumber Co. at Richwood, W. Va., twenty-five miles from Camden-on-Gauley, are at present characterized by unusual enterprise. The company owns 110,000 acres of fine timber land, and has erected a mill having a capacity of 250,000 feet of lumber per day. In addition to the mill a clothespin factory will be started within a few weeks. Two miles of railroad will be built in developing the territory.

It is stated that Mr. Moorhead, a lumber operator of Pennsylvania, visited Chattanooga last week to investigate some timber properties in that section. He has already purchased 5000 acres of timber land below Asheville, N. C., preparatory to starting up a saw-mill plant, but now is negotiating with the government looking to its inclusion in the Appalachian Park reserve. Mr. Moorhead will now doubtless purchase several thousand acres of timber land near Chattanooga and locate mills thereon.

A log of African mahogany was received in Baltimore last week by the Johnston Line steamship Queensmore from Liverpool measuring thirty and one-half feet in length, each of its four sides having a face of forty inches. It contains 37,000 superficial feet of mahogany. The wood is consigned to the Baltimore Mahogany Manufacturing Co., of which J. B. Bate is manager, and will be used for counter top. The timber came from the west coast of Africa, and was cut down 800 miles in the interior.

TRADE NOTES.

Cross Oil Filters.—Armour & Co. have just entered their third order for Cross Oil Filters furnished by the Burt Manufacturing Co. of Akron, Ohio.

Asbestos Property.—Manufacturers or operators desirous of buying an asbestos property are advised to correspond with L. T. Nichols, Chester, S. C. Mr. Nichols offers such a property for sale.

Theodore Hertz & Son.—Messrs. Theodore Hertz & Son of St. Louis, Mo., announce their removal to Tenth and Poepping streets, where they have additional space and greater facilities. The building is 100 feet square, and is completely equipped for smelting and refining ore, dross and metal. Present and prospective patrons are directed to note this change of address.

Second-Hand Machinery.—It will frequently occur that some industrial plant finds it necessary to dispose of second-hand machinery among its equipment. An Alabama company is about to sell machinery that has been displaced by more powerful machinery. The list includes engine, boiler, hub machinery, lathes, mortising machines and other apparatus. For further information see advertisement of Florence Wagon Works, Florence, Ala.

Heating and Ventilating.—Exeter Machine Works, Exeter, N. H., recently submitted, by request, plans for heating and ventilating the courthouse at Lewisburg, Pa. The plans were entirely satisfactory, and contract has been awarded to the Exeter company. Ruhl & Co., local agents, will erect the apparatus, installing a 20-section No. 1 Exeter Boiler. They have just completed the heating and

ventilating of the new library in Lewisburg, using a 16-section No. 2 Exeter Boiler. The Exeter Works also has order from the Malden Electric Co., Malden, Mass., for a largest size steam fan, dimensions of housing eighteen feet six inches, width of wheel eight feet, to be delivered and running by August 15. The fan is to be used for a water-cooling tower designed by Francis H. & Charles W. Boyer, mechanical engineers.

Sale of Worsted Mills.—The textile industry offers exceptional opportunities for a successful business career to the progressive investor. So general is the success attained in the industry that seldom is a completely-equipped plant offered for sale. Yet at times valuable textile mills are forced on the market, as is frequently the case in other branches of industry, and then the seeker after plants ready for operation has his opportunity to buy. Two worsted mills in Massachusetts are to be offered for sale this month. They are the Prospect Woolen Mills and the Globe Worsted Mills, both at Lawrence, Mass. Both plants are thoroughly equipped and possible of operation at profitable figures, the reasons for the present action being fully satisfactory to prospective purchasers. Messrs. J. E. Conant & Co., auctioneers, Lowell, Mass., will sell these properties at public auction on August 22. Send for illustrated catalogue telling of all details.

500-Kilowatt Generators Driven by Gas Engines.—The Sprague Electric Co. has recently closed an interesting order for three Lundell split-pole 500-kilowatt engine-type generators, with speed of 100 R. P. M., and wound for 250 volts, to be direct-connected to gas engines. These three generators, of 500 kilowatt capacity each, will be installed in the new works of the Lackawanna Iron & Steel Co. at Buffalo, and are designed for a continuous overload of 25 per cent. at a high efficiency. The gas engines will utilize as fuel waste gas from coke ovens. These will probably be much the largest generators in this country ever operated by direct-connected gas engines, and the method of utilizing waste gases for such large amounts of power, it is claimed, has never before been attempted in the United States. The Sprague Electric Co. has been very successful with the split-pole machines, as the ingenious design, high efficiency and remarkable endurance give them the best possible commercial value.

Trips on Chesapeake Bay and Tributaries. Beauty in natural scenery is not confined to any particular region, every section of this country of ours possessing its attractive localities, rivers, bays and islands. Especially during the hot summer months does the tired and overheated city dweller dream of visits of one or more days, and even weeks, to the places referred to. Marylanders need not look to other States and far-away sections for beautiful and picturesque scenery, as they are blessed with it in the country surrounding Chesapeake bay and its tributaries, havens and sounds. One river winds for miles through lowlands of the peninsula almost parallel with the Atlantic ocean, and at points less than ten miles from it. This stream is narrow and tortuous, its sides bordered by a cypress forest, and the magnolia and wild rose can be seen growing in profusion along its banks. The whole presents a splendid scene not to be viewed anywhere else north of Virginia. The climate, owing to the presence of large bodies of salt water, is very mild in winter, and the summer heat is tempered by the sea breeze, which blows nearly every day. The facilities for all kinds of outdoor sports are at hand, fish and game are plentiful, and these combine to attract thousands of visitors, whose number increases largely every summer. For those who insist on the ever-popular surf bathing, Ocean City and its beach are easy of access. These waters are traversed and the different towns of interest are reached by the steamers and trains of the Baltimore, Chesapeake & Atlantic Railway Co. of Baltimore, Md. A choice of seven routes is available, requiring from a day to several days to traverse for an enjoyable trip, and the expense is at the minimum; in fact, is really found surprisingly low when investigated by prospective voyagers. Efficient service, best cuisine, polite attendants and the comforts and conveniences of the best hotels combine to make these Chesapeake trips perfect. On them one may enjoy unstinted the fresh and balmy air, the invigorating salt-water breezes, freedom from dust and noise, the lulling wish of gentle waters and forgetfulness of the city's many objectionable features in hot weather. Several booklets that are handsomely illustrative of the seven trips mentioned have been issued by the company named. T. Murdoch, passenger agent, 241 South street, Baltimore, will furnish copies to inquirers.

CONSTRUCTION DEPARTMENT.

THE MANUFACTURERS' RECORD seeks to verify every item reported in its Construction Department by a full investigation and complete correspondence with everyone interested. But it is often impossible to do this before the item must be printed, or else lose its value as news. In such cases the statements are always made as "rumored" or "reported," and not as positive items of news. If our readers will note these points they will see the necessity of the discrimination, and they will avoid accepting as a certainty matters that we explicitly state are "reports" or "rumors" only. We are always glad to have our attention called to any errors that may occur.

*Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery Wanted."

In correspondence relating to matters reported in this paper, it will be of advantage to all concerned if it is stated that the information was gained from the Manufacturers' Record.

It often occurs that the organization of a new company in a town is not known by the postmaster, and hence letters addressed to the company are returned marked "not known." The Manufacturers' Record reports the first organization of all companies, and our readers, in seeking to get into communication with them, should be very careful in deciding how to address them, and it is often advisable to add the names of one or more incorporators as an aid to the postmaster in delivering mail.

ALABAMA.

Bessemer—Coal Mines.—Leo Levi, A. G. Levi, W. B. Williams, L. N. Wilson, Jr., and J. Bandman have incorporated the Gould Coal Mining Co. of Birmingham, with capital stock of \$15,000, for development of coal mines near Bessemer.

Birmingham—Oil Wells.—Daniel Rogers and J. G. Fitzgerald have organized the Alabama-Mississippi Oil & Mineral Co., with capital stock of \$50,000.

Birmingham—Brewery.—Alabama Brewing Co. has increased capital stock from \$60,000 to \$220,000 for increasing capacity of and enlarging plant.

Birmingham—Paper Company.—Birmingham Paper Co. has been organized by T. M. McClellan and others, with capital stock of \$10,000, to conduct paper store.

Birmingham—Lumber Mill.—Chartered: Ward & Smith Lumber Co., to conduct general lumber business, with capital stock of \$15,000, by Thomas Ward, J. D. Kirkpatrick and H. S. Smith.

Birmingham.—It is stated that the Tennessee Coal, Iron & Railway Co. will build at the steel mill of the Alabama Steel & Shipbuilding Co. (now in course of construction) two additional buildings to be equipped with machinery for the manufacture of cotton ties and merchant iron and steel in all card sizes. These additions will cost about \$200,000 and with the steel mill will constitute a continuous plant. It is also said the company will erect additional foundry and machine shops for its own repairing. G. B. McCormack is general manager of the Tennessee Company.

Cullman County—Oil Wells.—R. H. Thomas of the Birmingham (Ala.) Oil & Development Co. has purchased machinery for, and will soon begin, drilling for oil in Cullman county.

Ensley—Machine Shops.—It is reported that the Tennessee Coal, Iron & Railroad Co. (principal office, Birmingham) will build \$100,000 plant at Ensley for manufacture of locomotives, blowing engines for furnaces and other heavy machinery.

Eufaula—Brick Plant.—A. J. Baldwin & Co. of Dawson, Ga., will erect large brick plant near Eufaula, which will be under management of R. R. Fussell or W. C. Thomas of Dawson, Ala.

Gadsden—Hardware Company.—Smith & Echols will incorporate as the Smith, Echols & Burnett Hardware Co., with capital stock of \$25,000.

Huntsville—Handle Factory.—Southern Handle Manufacturing Co., organized by the consolidation of two factories previously mentioned, will enlarge its output; now 1000 dozen handles per day. M. R. Grace is president.

Lagarde—Lime-kiln.—Lagarde Lime & Stone Co. is erecting new kiln with capacity of between 200 and 300 barrels per day, and making other improvements to plant; J. B. Lagarde, president.

Mobile—Oil Wells.—Mobile-Beaumont Oil Co. has been chartered, as recently stated, with capital stock of \$3,000,000, for boring for oil near Mobile and at Beaumont, Texas, where it has holdings. Address H. T. Inge, 59 St. Joseph street, Mobile.

Mobile—Shipbuilding Plant.—Officers of the Gulf Coast Shipbuilding & Dry-Dock Co., which was chartered by the last legislature, visited Mobile during the week investigating sites for plant. This company proposes to establish a shipbuilding plant of modern type on Mobile bay, and a ship-repairing and dry-dock plant at New Orleans, La. The investment required will be between \$3,000,000 and \$4,000,000, but this has not been financed yet. Robert C. Morris is president; S. B. McConico, second vice-president and secretary, and W. D. Munson, treasurer; New York office, 31 Nassau street.

Montgomery—Oil Wells.—J. C. Haas, John P. Kohn and others will organize the Moulton Valley Oil Co. for development of oil wells.

Tusculum—Ice Plant.—Crystal Ice Co. will enlarge its plant, installing a 20-ton machine.

ARKANSAS.

Argenta—Ice Plant.—It is reported that an ice factory will be erected, and Geo. Elchoff, Wm. Metz and others are interested.

Dardanelle—Cotton-oil Mill.—Arkansas Valley Cotton Oil Co. has increased capital stock from \$25,000 to \$40,000.

Fayetteville—Ice and Cold-storage Plant.—Company has been organized by Messrs. Simmons, Whitlow and Vincenheller to erect ice and cold-storage plant.

Fort Smith—Coal Mines.—Mazzard Coal Co. has been incorporated, with capital stock of \$60,000, by B. F. Atkinson, president; Bennett Brown, vice-president and general manager; Allan Kennedy, secretary and treasurer.

Harrison—Water-works.—Harrison water-works and sewerage commission has completed organization with G. M. Crump, president, and P. C. Maggard, secretary. An engineer has been engaged to make estimates, and after same are submitted a definite decision will be reached as to construction.

Little Rock—Ice Plant.—C. J. Langston, president, and James W. Langston, secretary, of the Merchants' Ice Co., reported during the week as organized for establishment of ice factory, are of Pine Bluff, Ark.

Paragould—Ice Plant.—E. B. Perkins contemplates erecting 50-ton ice plant.

Paragould—Ice Plant.—W. G. Avera & Bro. will erect 15-ton ice plant.

Yellville—Real Estate.—Chartered: Kingdom Town Lot Co., with capital of \$2000, by W. F. Cleveland, J. E. Lenon and E. M. Willard.

FLORIDA.

Florida—Realty Company.—Florida Realty & Investment Co. has been incorporated, with capital stock of \$100,000, by Peter Stuart, E. E. Stone of Portland, Me., and others.

Jacksonville—Kaolin Deposits.—It is reported that New York parties are investigating with a view of purchasing and developing kaolin lands in Marion and Lake counties. S. W. Fox, Jacksonville, may possibly give information.

Kissimmee—Telephone System.—C. A. Carson has obtained charter and will establish local telephone exchange.

Leesburg—Cooperage.—Chartered: Leesburg Cooperage & Manufacturing Co., with capital stock of \$50,000, to manufacture shingles, barrel crates, builders' materials, etc., by E. H. Mote, E. Hausbrough and J. M. Richman.

Sanford—Ice Plant.—N. Neff, J. B. Cutler and W. E. Bell will erect 15-ton ice plant.

St. Augustine—Improvement Company.—

Charles G. Perkins and others have incorporated Volusia Sportmen's Club.

GEORGIA.

Atlanta—Ice Plant.—Kelley Coal & Ice Co. is installing 25-ton ice plant in present 50-ton plant, and erecting cold-storage house 80x100 feet, with capacity for 3000 tons of ice.

Atlanta—Mineral-land Development.—I. H. Oppenheim, M. L. Bickart of Fulton county, W. D. Story and W. H. Fluker of McDuffie county have incorporated the Latimer Mining Co. for development of mineral lands. Capital is \$2000, with privilege of increasing to \$100,000.

Bigwheel—Lumber Mill.—Dooly Lumber Co. is erecting mill with capacity of 60,000 feet per day.

Clarkesville—Cotton Mill.—Calder B. and Broadus E. Willingham have bought and will operate on a \$100,000 capitalization the Porter Cotton Mills near Clarkesville; entire plant will be modernized; mill now has 2800 cotton and 3400 woolen spindles.

Dahlonega—Soapstone Quarry.—Extensive soapstone quarry near Dahlonega is to be developed and suitable machinery will be needed for sawing and preparing the soapstone for market. Information can be obtained by addressing F. H. Kennedy, 29 Hollander street, Roxbury, Mass.*

Dublin—Bridge Extension.—Geo. H. Crafts of Atlanta, Ga., has received contract at \$10,636 for extension of bridge at Dublin.

Georgetown—Grist Mill.—C. G. Mercer will rebuild his grist mill recently burned; cost \$2500.*

Grantville—Mining.—J. C. Puttner, Paul E. Knapp and others have incorporated the American-Canadian Mining & Amalgamating Co., with capital stock of \$300,000.

Griffin—Electric-light Plant.—City will install new generator for doubling capacity of its electric-light plant. Address "The Mayor."

Griffin—Ice Factory, Cotton-oil Mill and Creamery.—W. P. Walker, Jas. H. Walker and Mrs. M. E. Wilson have incorporated as the Walker Bros. Company for the manufacture of cottonseed oil, meal, ice and to establish creamery; capital stock \$50,000.

Hahira—Mercantile.—Chartered: Farmers' Supply Co., with capital of \$4000, by A. J. Strickland and others.

Macon—Wagon Factory.—Lawson Brown and Chas. Cater are instrumental in the organization of stock company for establishing wagon factory.

Macon—Planing Mill and Box Factory.—Ocmulgee Lumber Co. has purchased the yards formerly operated by Massee & Cater, and contemplates putting in a planing mill and box factory.*

Newnan—Flour Mill.—William S. Askew, Frank Wilkinson and Eugene Askew have incorporated the W. S. Askew Company, with capital stock of \$25,000, for manufacture of flour, corn, etc.

Newnan—Hay-press Factory.—F. M. Chappell has invented and will manufacture a hay press.

Rome—Stove Foundry.—J. D. Hanks has organized a stock company for the manufacture of stoves, capacity to be forty per day.*

Sargent—Cotton Gin, Saw-mill, etc.—W. C. McBride, H. C. Arnall, A. W. Arnall, T. G. Farmer and others have incorporated, with capital stock of \$4000, the Arnall Ginning Co., for establishment of a ginnery, cottonseed-oil mill, saw-mill, etc.

Sargent—Gin, Saw-mill, etc.—W. C. McBride, H. C. Fisher and J. R. McCullum have incorporated the Coweta Gin Co., with capital of \$3000, for ginning cotton, manufacturing cottonseed oil, operating saw-mill, etc.

Valdosta—Ice and Electric Plants.—J. F. Lewis, C. W. Lamar, E. M. Sichel and others have incorporated the Georgia Ice & Manufacturing Co. to manufacture ice, gas and electricity; capital stock is \$10,000.

Waycross—Sewerage.—Sewerage system will be extended to Satilla river. Address "Water-works Commissioners."

KENTUCKY.

Danville—Oil Wells.—W. H. Breckenridge of New York, representing Breckenridge Oil Co., is inspecting the leases of his company recently made in and around Danville preparatory to sinking experimental wells.

Edmonson—Asphalt Mines.—Wadsworth Stone & Paving Co. of Pittsburgh, Pa., has leased 1000 acres of asphalt lands in Edmonson county and will open a mine at once.

Georgetown—Water, Gas and Power Company.—Georgetown Water, Gas & Power Co. has been organized, with capital stock of \$200,000, by J. P. Jackson of Georgetown and Ross Holman of Cincinnati.

Henderson—Ice Plant.—Henderson Mining & Manufacturing Co. will add a 30-ton ice plant to its equipment.

Hopkinsville—Ice Plant.—Consumers' Ice Co. is name of corporation previously reported as contemplated by R. H. Holland and others; ice plant of fifteen tons capacity will be installed.

Kentucky—Oil Wells and Pipe Line.—Ohio Valley Oil & Pipe Line Co. of Evansville, Ind., has been incorporated, with principal works at Kentucky; capital stock is \$300,000, and incorporators James B. Collins of Chicago, I. C. Jordan, C. D. Craig, J. H. Nash and others of Charleston, W. Va.

Louisville—Asphalt Mines.—It is reported that Eastern and Western capitalists have organized a \$2,000,000 corporation for the purchase and development of 15,000 acres of asphalt properties in several counties in Kentucky. Plant will be installed to cost \$250,000 for grinding and preparing asphalt. Names of those interested not announced yet.

Somerset—Coal and Timber Developments.—Col. L. F. Hubble has completed arrangements for constructing a railway to facilitate the development of his coal and timber lands in the Cumberland valley.

Stephensport—Cannery.—Efforts are being made to establish a cannery. Among those interested are R. A. Smith, Samuel Dix and Andrew Crawford.

LOUISIANA.

Jennings—Irrigation Canals, etc.—Louisiana Rice & Irrigating Co., Limited, has been incorporated, with capital stock of \$500,000 (of which \$200,000 is paid in) and D. E. Sweet, president; W. W. Sutton of Chicago, vice-president; Horace Le Grange of Detroit, Mich., secretary; John O'Connor of Detroit, treasurer, and C. L. Pardee, general manager. This company acquires Jennings Irrigation Co.'s systems, which it will extend to irrigate 20,000 additional acres. Rice mills may possibly be built. Address manager.

Monroe—Mercantile.—Meyer Bros. (mercantile) have incorporated, with capital stock of \$250,000 and S. Meyer, Sr., president.

New Orleans—Dry-dock, etc.—Gulf Coast Shipbuilding & Dry-Dock Co. proposes to establish ship-repairing plant and dry-dock. S. B. McConico, 31 Nassau street, New York, is secretary. (See item under Mobile, Ala.)

New Orleans—Cigar Factory.—A. Santanella of A. Santanella & Co. of Havana, Cuba, and Tampa, Fla., will establish large cigar factory at New Orleans under the management of Manuel Cavallero, now of Chicago.

New Orleans—Woodworking Factory.—V. G. Lhote, George Lhote, M. A. Leroy, Geo. W. Kelly and others have incorporated Lhote Lumber Manufacturing Co., with capital stock of \$300,000, for the manufacture of lumber, sash, doors, blinds, etc.

New Orleans—Mercantile.—Chartered: Weiss, Frank & Co., Limited, with capital stock of \$50,000, to conduct grocery business, by Chas. Weiss, Martin Frank and others.

New Orleans—Ice Plants.—Crescent Ice Co., Louis P. Hart of Savannah, Ga., president, will expend \$175,000 in increasing capacity of its New Orleans plants 200 tons per day, making a daily output of 650 tons.

New Orleans—Exporting and Importing.—Chartered: P. Torre & Sons Company, Limited, with capital stock of \$10,000, to conduct general importing and exporting business, by P. Torre, Louis Jean, M. C. Soniat and others.

MARYLAND.

Baltimore—Cigar Store.—Tiger Cigar Store has been incorporated, with capital of \$500, by Chas. A. Warner, E. J. Handy, L. A. Kahn and others.

Baltimore—Realty.—Chartered: Consolidated Realty Co., with capital stock of \$50,000, by F. J. Schneider of Rosedale, Md., president; W. B. Ehlen, 5 East Lexington street, vice-president; W. E. Ferguson, 5 East Lexington street, secretary.

Baltimore—Machinery Company.—Maryland Shoe Machinery Co., recently organized with capital stock of \$150,000, has secured part of building 210 North Holliday street, and is installing plant for the manufacture

of patented machinery to be used in the manufacture of shoes. John F. Weyler is president.

Baltimore—Gas-appliance Factory.—Mutual Gas Regulator Co. has been incorporated for the manufacture of gas-saving appliances, by John H. Cann, C. E. Cole, G. W. Myers and others; capital stock \$20,000.

Baltimore—Coal Pocket.—Baltimore Distributing & Storage Co., now building a coal pocket on Oak street, has purchased property on Carey street, and will construct a similar pocket at a cost of \$60,000.

Baltimore—Brewery.—F. H. Gottlieb, John Bauernschmidt, J. H. Straus and others have incorporated the Gottlieb-Bauernschmidt-Straus Brewing Co., with capital stock of \$5,000,000, for the manufacture of beer, etc., absorbing plant of Maryland Brewing Co.

Baltimore—Stables.—Chartered: Warwick Stables, by John McGlone, B. C. McGlone, John Sherry and others; capital \$3,000.

Chestertown—Water Supply.—Chestertown water supply will be increased by an artesian well with capacity of 200,000 gallons. Address "The Mayor."

Cumberland Brewery and Ice Plant.—German Brewing Co., previously reported, has awarded contracts for its proposed brewing plant, which will be equipped with two 20-ton refrigerating machines, 15-ton distilling and ice-freezing plant, etc.

Hagerstown—Barrel Factory.—J. W. Thomas & Co. of Philadelphia, Pa., will erect a barrel factory at Hagerstown.

Havre de Grace—Water-works.—Havre de Grace Water-Works Co. will reorganize with an increased capital stock for enlarging its system. Improvements will include new pumping machinery, new eight-inch pipe, etc. Geo. W. Albaugh of Westminster, Md., will hold controlling interest.

Jefferson—Tool and Plow Works.—Maryland Shovel, Plow & Tool Co. has been incorporated, with capital stock of \$50,000, for the manufacture of plows, tools and shovels, and will establish a factory to be operated by water-power. Geo. W. Blaser of Berkeley Springs, W. Va., is president; W. F. Steiner, Jefferson, vice-president; Francis Albert of Baltimore, Md., secretary, and George T. Steiner of Jefferson, treasurer.

Washington, D. C.—Stone Works.—Washington Litholite Co. has been organized, with capital stock of \$60,000, for manufacturing litholite building stone, made by combining natural stone and cement. Albert Lake operates a small plant at Twelfth and U streets N. W., which will be absorbed by the new company.

Westernport—Coal Mines.—Piedmont Cumberland Coal Co., Piedmont, W. Va., has leased property near Westernport, and will develop coal mines.

MISSISSIPPI.

Aberdeen—Ice Plant.—Emile C. Christmas will build 15 to 20-ton ice plant, as recently stated.*

Aberdeen—Oil Wells.—Monroe County Oil, Gas & Land Co., previously reported incorporated, has completed organization with J. W. Eckford, president; D. I. Howard, vice-president, and T. T. Davenport, secretary.

Aberdeen—Laundry.—E. E. Mangum, Clifton Sykes, H. H. Scrape and others have incorporated the Aberdeen Steam Laundry, with capital stock of \$5,000, for establishing a laundry.

Bay St. Louis—Packet Company.—E. J. R. J. and W. J. Comeaux and J. E. and J. V. Le Blanc have incorporated the Comeaux-Le Blanc Packet Co., with capital stock of \$30,000.

Columbus—Oil Wells.—Chartered: Kaye Oil Co., with capital stock of \$150,000.

Columbus—Oil Wells.—Interstate Mineral Co. has been incorporated, with capital stock of \$25,000.

Hattiesburg.—Chartered: Harper-Davis Company, with capital stock of \$15,000, by S. J. Harper, N. W. Howell and W. M. Davis.

Lyman—Lumber Mill.—L. R. Reeves and R. B. Hopkins have incorporated Reeves-Hopkins Lumber Co., with capital stock of \$10,000, for manufacture of lumber and other articles of wood.

Moss Point—Lumber Mill.—Chartered: McIntosh Lumber Co., with capital stock of \$20,000, by J. J. McIntosh, F. Colmer and others.

Natchez—Ice Factory.—Natchez Ice Co. will install 50-ton plant for increasing capacity.

Senatobia—Ice Plant.—Efforts are being made for establishment of a \$10,000 ice plant. Address "The Mayor."

Vicksburg—Real Estate.—Chicago Real Es-

tate & Investment Co., with capital stock of \$10,000, has been incorporated by Philip Field and others.

Vicksburg—Improvement Company.—Chartered: Valley Park Investment Co., with capital stock of \$30,000, by Benj. Gratz and others.

MISSOURI.

Boonville—Laundry.—Boonville Steam Laundry, reported burned, will be rebuilt.*

St. Louis—Manufacturing.—Whitaker & Weber Manufacturing Co. will increase capital stock from \$50,000 to \$100,000.

St. Louis—Mining.—Chartered: Las Playas Mining & Milling Co., with capital stock of \$500,000, by Chas. H. Filley, Chas. Wiggins, C. F. Bates and others.

St. Louis—Realty.—Chartered: Joseph F. Wangler Realty Co., with capital stock of \$50,000, by Jos. F. Wangler, C. J. Wangler and others.

St. Louis—Mining.—American Lead Baryta Co. has been incorporated under Delaware laws, with capital stock of \$10,000,000, to explore and operate mines in Missouri. Incorporators are Archer W. Douglas, James W. Van Cleave and Lucian R. Blackmer of St. Louis, John Morton of Pueblo, Col., O. E. Robinson of Baltimore, Md., and others.

St. Louis—Manufacturing.—Sterling Manufacturing Co. has increased capital stock from \$600 to \$12,000.

St. Louis—Cement Plant.—St. Louis Portland Cement Co., reported recently as incorporated, will erect Portland cement plant of 1500 barrels capacity. Address John C. Robinson.

NORTH CAROLINA.

Charlotte—Cotton Mill.—Alpha Mills has about completed remodeling plant and changing from a yarn to a weaving mill; company is building a 100x208-foot mill, two stories, in which to install 7000 spindles and 160 looms. About \$150,000 is being expended, and \$100,000 more will be spent soon for new machinery.

Elizabeth City—Mercantile.—Chartered: J. H. Le Roy Mercantile Co., with capital stock of \$16,000, by J. H. Le Roy and others.

Fayetteville—Electric Plant.—City has closed contract with Cape Fear Power Co. for 100 horse-power, to be delivered January 1, for supplying electric lights for streets and incandescent system for public buildings and private use; preparations for wiring town will begin at once.

Goldshoro—Improvement Company.—W. K. Parke and others have incorporated the Casino Company, with capital of \$2000, and privilege of increasing to \$20,000, for maintaining and operating "Fair Grounds."

Greensboro—Brick Works.—Greensboro Brick Co., recently reported incorporated, is successor to Greensboro Brick & Tiling Co.

Hickory—Cotton Mill.—It is rumored that J. M. Odell of Concord and others will build a cotton mill and develop water flow for furnishing electrical power, about \$1,000,000 to be expended, near Hickory.

Kinston—Handle Factory.—S. Oettinger, T. Wooten, H. D. Harper and others have organized Kinston Specialty Manufacturing Co. for the manufacture of handles.

Lenoir—Flour Mill.—Geo. W. Connelly, reported recently to erect new flour mill, will remove mill from near Hudson and enlarge same.

Marion—Mica Mines, etc.—J. E. Burtleson Mica Co., recently reported incorporated, will mine and manufacture mica and conduct saw-mill and lumber business; company succeeds J. E. Burtleson in mica business and has works at Spruce Pine, with offices at Marion; company is also replacing saw-mill and grist mill destroyed by recent floods. J. E. Burtleson of Spruce Pine is president, and L. J. P. Cutlar of Marion, secretary and treasurer.

Marshall—Mineral Company.—Carolina Mineral Co. has increased its capital stock from \$150,000 to \$250,000.

Raleigh—Cotton Mill.—It is rumored that Neuse River Cotton Mills will double its 5000-spindle 150-loom plant.

Rocky Mount—Tobacco Factory.—W. L. Petty Company, reported recently as incorporated for establishment of machine shops (erroneously), will conduct general leaf-tobacco business, and has steam plant for handling leaf tobacco already installed.

Tryon—Pants Factory.—R. F. W. Allston is interested in the establishment of a pants factory.*

Washington—Stave Mill, etc.—It is reported that Dr. O. D. Jackson of Norfolk has sold to a Mr. Marvin of Ohio 12,000 acres of swamp lands in Beaufort and Craven counties which is heavily timbered. Mr. Craven proposes to canal the property and establish plant for manufacturing staves

and veneering. Tramroad will also be constructed.

Wilmington—Sewerage.—The election reported recently to be held August 15 to decide issuance of \$100,000 of bonds for sewerage system has been postponed until September 5. Address "The Mayor."

Wilmington—Stamp Works.—Wilmington Stamp Works has chartered, with capital of \$2500, for conducting printing business and to manufacture rubber stamps, inks, ink pads, etc., succeeding Wilmington Stamp Works, located at 15 Princess street; incorporators, Thomas F. Bagley, S. P. McNair and Eustice Norfleet.

Windsor—Peanut Factory, etc.—Windsor Cotton & Peanut Co., previously reported as incorporated for cleaning peanuts, making peanut meal, etc., has completed organization with R. C. Bazemore, president; G. L. Marion, vice-president, and W. L. Lyon, secretary and treasurer.

Winston-Salem—Knitting Mill.—L. A. Vaughn will establish a knitting mill.

SOUTH CAROLINA.

Bennettsville—Drug Company.—Bennettsville Drug Co. has been incorporated, with capital stock of \$5000, by E. M. Rowe and F. R. Crosland.

Blacksburg—Oil Mill.—Blacksburg Cottonseed Oil Mill, with capital stock of \$15,000, has been incorporated by A. H. Pollock, president; W. F. Dye, vice-president, and N. W. Hardin, secretary and treasurer.

Florence—Ice Plant.—F. J. Hodge will erect 5 to 10-ton ice plant.

Greenwood—Woodworking Factory.—W. J. Sneed of Richmond, Va., will organize a \$10,000 company for the establishment of general woodworking factory in Greenwood, as recently reported.*

Mt. Pleasant—Water-works.—Efforts are being made for installation of water-works system. Address "The Mayor."

Newberry—Cotton Factory.—Carolina Manufacturing Co. has increased its capital stock from \$30,000 to \$50,000 for increasing capacity of factory.

TENNESSEE.

Amanda—Spoke and Handle Factory.—American Handle Co. will remove its Sparta factory to Amanda and install new machinery for manufacture of neck yokes and pick and axe handles.

Bristol—Lumber Company.—James Strong Lumber Co. has amended charter, increasing capital stock from \$300,000 to \$500,000.

Broadway—Manufacturing.—Broadway Manufacturing Co. has been incorporated, with capital stock of \$10,000, by J. C. Karnes, M. R. Grippen, E. W. Gillespie and others.

Chattanooga—Timber Developments, etc.—The Cumberland Coal & Timber Co. has been merged with the Tennessee Company that projects an electric railway to Nashville. The company has 40,000 acres of timber and coal lands which are to be developed as a result of building the railway, and it is said that water-powers will be developed also; capital stock is \$5,000,000. Ralph L. Aldrich of Detroit, Mich., is president of company. Cleveland (Ohio) parties are also interested.

Chattanooga—Boiler Works.—Lookout Boiler Works has purchased site at \$3500, and is having plans made for erection of a two-story brick factory building.

Chattanooga—Stave Mill.—Childress & Welborn Stave Co., with capital stock of \$6000, has been chartered by H. P. Childress, M. W. Welborn, J. Applegate and others.

Gallatin—Water-works Extension.—City contemplates extending pipe line 2500 feet at a cost of about \$1500, and has not determined whether to do the work or let it to contractor; size of pipe four inches; Jas. W. Blackmore, mayor.

Johnson City—Lumber Mill.—Unaka Lumber Co. has been incorporated, with capital stock of \$10,000, by U. S. Archer, John H. Bowman, S. C. Williams and others.

Knoxville—Feed Mill.—Lewis, Leonhardt & Co. will install new plant for the manufacture of stock and poultry food; company is now erecting warehouse 50x126 feet.

Lexington—Telephone System.—City has granted franchise to Jackson Home Telephone Co. of Jackson, Tenn., for construction of system at Lexington.

Mossy Creek—Woolen Mills.—Mossy Creek Woolen Mills has amended charter, changing name to Jefferson City Woolen Mills and increasing capital stock from \$30,000 to \$50,000.

Nashville—Mattress Factory.—Perfection Mattress Co. has been chartered, with capital stock of \$3500, by W. D. Cline, J. W. Trigg, J. H. Powell and others. Company has absorbed stock and plant of Powell Bros. & Co.

Nashville—Wagon Factory.—Mechlen

Wagon Co., recently chartered in West Virginia and reported to establish a wagon factory at Nashville, expects to definitely close deal for the factory within a short time. C. L. Beure, Masonic Temple, Olean, N. Y., may be addressed regarding full particulars.

Nashville—Chartered: City Stable, with capital stock of \$5000, by Tate Earnest and others.

TEXAS.

Austin—Telephone Company.—Austin City Telephone Co. has increased its capital stock to \$300,000.

Austin—Transfer Company.—Chartered: George Miller Delivery & Transfer Co., with capital stock of \$10,000, by George Miller and others.

Beaumont—Light, Heat and Power Company.—Chartered: Beaumont Light, Heat & Electric Motor Power Co., with capital stock of \$100,000, by T. W. Shepherd, S. F. Cooper, I. D. Polk, W. W. Pope and others.

Beaumont—Oil-well Developments.—Chicago-Beaumont Oil Co. has purchased 611 acres of oil lands in Jefferson and Brazoria counties and will develop. Wm. Penn Nixon and Wm. C. Hunter of Chicago, D. C. O'Malley of New Orleans, B. D. Butler of Omaha and others are interested.

Belton—Cotton Gin.—Chartered: Belton Gin & Cotton Co., with capital stock of \$22,000, by W. R. Delaney, N. K. Smith and C. R. Smith.

Caldwell—Broom Factory.—Broom factory has been established by Thomas F. and Harry Hudson with capacity of sixty dozen per day.

Dallas—Publishing.—Chartered: Southern Publishing Co., with capital stock of \$10,000, by W. L. Lemon and others.

Dallas—Fuel Company.—Pinto Fuel Co. has been incorporated, with capital stock of \$10,000, by T. L. Camp, C. Beauchamp, R. C. Hauley and others.

Dallas—Petroleum Company.—Planet Petroleum Co., with capital stock of \$40,000, has been incorporated by C. B. Gardner, L. N. E. Johnston and W. G. Brown.

Dublin—Mercantile.—Chartered: Utterback & Harris Co., with capital stock of \$100,000, by B. M. Utterback and others.

El Paso—Telephone System.—Chartered: Southern Independent Telephone & Telegraph Co., with capital stock of \$200,000, to construct and operate telephone system, by B. L. Miller, J. B. Badger and others.

El Paso—Ice Plant.—L. W. Allum will build 10-ton ice plant and install bottling machinery.

Fort Worth—Creamery and Ice Factory.—D. E. Pelter of St. Louis, Mo., will install ice plant, creamery and cheese factory in North Texas. Address him at Fort Worth.*

Fort Worth—Viaduct.—City contemplates construction of steel viaduct in place of wooden one, previously reported, and Texas & Pacific Railway Co., L. S. Thorne, Dallas, general manager, will contribute \$30,000 towards its construction in place of the \$15,000 contributed had the viaduct been a wooden structure. Address "The Mayor."

Gatesville.—Chartered: Stukes Egg Preservative Co., with capital stock of \$10,000, by G. W. Mounce and others.

Houston—Rice Culture.—San Francisco parties have organized a \$200,000 company to engage in rice culture in South Texas; 10,000 acres of land will be purchased, and C. W. Hahl of Houston is conducting negotiations.

Houston Heights—Textile Mill.—Oriental Textile Mills, reported incorporated some months ago, has established a plant for making press cloths for oil mills. Samuel E. Allen and others are interested.

Kaufman—Cotton Gin.—Kaufman Gin & Cotton Co. has been incorporated, with capital stock of \$12,000, by J. M., J. O. and J. S. Sheppard.

Lancaster—Water-works.—A Mr. Carter of Dallas has made a proposition to establish system of water-works at Lancaster. Probably Water, Ice & Light Co. can inform.

Lumber—Cotton-rope Mill.—The establishment of a cotton-rope mill is contemplated. W. S. Jackson can be addressed.*

Mart—Gin.—Weld & Neville will, it is said, build round-bale gin at Mart.

Ottine—Oil Wells.—Chartered: Ottine Oil Co., with capital stock of \$10,000, by J. A. Otto, Louis Otto, T. F. Harwood and others.

Paris—Flour Mill.—Paris Milling Co. is increasing capacity from 150 to 225 barrels per day.

Richmond—Irrigation Canal.—J. S. Dougherty of Houston, with the Hurd-Ford Investment Co. of Des Moines, Iowa, are organizing the Oyster Creek Irrigation & Transportation Co. for constructing a canal in Brazos river for irrigation purposes.

Sulphur Springs—Cotton-oil Mill.—Farmers

& Gladders' Cotton Oil Co., recently reported incorporated, has 60-ton mill in course of erection; W. F. Skillman, secretary.

Vernon-Ice Plant.—W. O. Anderson is installing 10-ton ice plant.

VIRGINIA.

Alexandria.—Knitting Mill.—Alexandria Hosiery Co. has been organized, with Wm. Schwarzman, president, and Samuel Stokely, secretary, to establish hosiery mill and dye-house at Wilkes and Pitt streets; capital stock is \$10,000.

Buckroe Beach (P. O. Newport News).—Amusement Company.—Buckroe Amusement Co. has organized, with capital stock of \$25,000, for establishing amusements at Buckroe Beach. James V. Bickford is president; Thornton F. Jones, vice-president, and Sydney J. Dudley, secretary and treasurer.

Harrisonburg.—Electric-light Plant.—City will hold an election to decide erection of a municipal plant according to plans prepared by Thorburn Reid of New York. Address "The Mayor."

Newport News.—Chemical Works.—New York Fireproof Co. has been incorporated, with capital stock of not less than \$10,000, nor more than \$25,000, for the manufacture of fire-extinguishing and fireproofing chemical compounds. W. W. Woodward of Hampton is president; W. S. Upshur of Newport News, vice-president; Geo. A. Schmelz of Hampton, treasurer, and J. L. Patton of Newport News, secretary.

Norfolk.—Bagging Mill.—Margolis & Co. (office in Citizens' Bank Building) have purchased site for and will erect a factory for producing cotton bagging and ties.

Richmond.—Refrigerating Plant.—John A. Waters & Co. will install 25-ton refrigerating machine.

Richmond.—Locomotive Works.—American Locomotive Co., reported previously as formed to acquire eight locomotive works, including the Richmond Locomotive Works, has decided to expend \$100,000 in improving the Richmond plant, improvements to consist of electrical appliances and new machinery generally; details of the improvements have not been prepared; S. R. Callaway, president, 25 Broad street, New York.

Richmond.—Medicine Factory.—Seven Springs Iron-Alum Mass Co. has been incorporated, with capital stock of not less than \$10,000 nor more than \$25,000, for the manufacture of medicinal preparations. R. H. Stoltz is president; M. H. Garthright, vice-president and treasurer, and W. F. Kirk, secretary.

Roanoke.—Oil Wells.—Correct name of company reported last week is the Southwest Virginia Petroleum Co., with Henry Scholz, president; M. C. Franklin, vice-president; W. A. Pedigo, general manager, and Edward Hughes, secretary and treasurer. Capital stock is \$20,000, with \$10,000 paid in. Address W. A. Pedigo.*

Springwood.—Cold-storage Plant.—A. T. Booz will erect cold-storage plant on farm.

Sussex.—Ice Plant.—Seaford Shirt Factory has installed 25-ton ice plant, to be operated in connection with factory.

Virginia.—Telephone System.—F. D. Drewry and others have organized the Virginia Telephone Co. (partnership) for the construction of a telephone system connecting various mines with the long distance lines.*

WEST VIRGINIA.

Carkin.—Coal Mines.—The Nease Syndicate is reported as to develop the Carkin & Dodge property at Carkin. An electric plant is now being installed, and two or three new openings will be made, giving a combined output of 3000 tons per day; G. G. Hadley, general manager, Charleston.

Charleston.—Coal Mines.—The Nease Syndicate has commenced developing the old Black Diamond mine; also proposes to make two additional openings, increasing output from 500 to 2500 tons per day. The mining equipment is operated by electric-power, the plant for furnishing current having recently been completed; G. G. Hadley, general manager.

Clarksburg.—Land Improvements.—W. Hunter Atha of Fairview and others optioned lands near Clarksburg, as recently reported, and organized a stock company for improving the property as a townsite and manufacturing center. Street-car lines will be extended and bridges built to connect with Clarksburg, etc.

Fairmont.—Coal Mines, etc.—New Central Coal Co. (main office, New York city), with mines in the Fairmont district, is making extensive improvements, which include sinking of new shafts, boiler, air compressor room 42x100 feet, boiler capacity of 6000 horsepower, engine-room 34x40 feet for hoisting engine, machine shops, car repair shops and

blacksmith shops, which will all be erected near main building. John Stewart is resident engineer.

Fairmont.—Plaster Factory.—O. J. Fleming, J. M. Black of Fairmont, Robert C. Falconer of Pittsburgh, Pa.; J. T. Moore of Shinnston, W. Va., and others have incorporated the Fairmont Wall Plaster Co., with capital stock of \$25,000, for manufacturing plaster, plaster tints, etc.

Glendale.—Coal Mines.—Glendale Colliery Co. has been incorporated to conduct general mining business by C. E. Beury and R. B. Hanna of Claremont, V. L. Black of Charleston and others; capital stock is \$100,000.

Grafton.—Glass Plant.—E. C. Clark of Pittsburgh, Pa., representing glass manufacturers, has made a proposition for establishment of plant at Grafton.

Grafton.—Telephone System.—Consolidated Telephone Co. has been incorporated for constructing and operating a system of magnetic telephone and telephone exchanges in West Virginia. Authorized capital is \$300,000, and incorporators are William Morgan, B. T. Bailey of Grafton, C. E. Pride of Clarksburg and others.

Hambledon.—Tannery.—Hambledon Leather Co. has been incorporated, with capital stock of \$100,000, by Louis C. Iyer of Osceola Mills, Pa.; D. Blakely Hoar, Brookline, Mass.; John P. Shea of Boston, Mass., and others for erection of a large tannery.

Morgantown.—Oil Wells, etc.—Joseph F. Hewitt of Allegheny, Pa.; A. G. Heber, W. M. Everson and W. Hamilton Brunt of Pittsburgh, Pa., have incorporated the Everson Oil Co. for boring for oil, gas, minerals, etc.; authorized capital is \$50,000.

Wheeling.—Glass Factory.—Capt. Ed. Muhlenman contemplates organization of stock company for establishment of glass factory.

Wheeling.—Ice Factory.—Louis Neibergall will rebuild his ice and cold-storage plants reported burned at a loss of \$20,000.

Wheeling.—Electric Plant.—Pan Handle Traction Co., Howard Hazlett, president, will build an electric-power plant.*

BURNED.

Dallas, Texas.—Max Hahn's packing house; loss \$100,000.

Merkel, Texas.—W. N. M. Grimmet's creamery, cheese factory and ice plant; loss \$6000.

Savannah, Ga.—Works of Southern Lamp-black Co.; C. E. Broughton, president.

Thomasville, N. C.—Lambeth Chair Co.'s factory; loss \$12,000.

Wheeling, W. Va.—Louis Neibergall's cold storage, ice plant and slaughterhouse; loss about \$25,000.

Woodville, Tenn.—W. J. Wilson's spoke factory; loss \$1000.

BUILDING NOTES.

Asheville, N. C.—Depot.—W. E. Vest and C. L. Porter, civil engineers, have completed surveys for the proposed depot at Asheville of the Southern Railway; Frank S. Gannon, general manager, Washington, D. C.

Atlanta, Ga.—Building.—Plans are being prepared for erection of an additional building to Emory College to cost \$25,000.

Baltimore, Md.—Buildings.—Chesapeake & Potomac Telephone Co. will convert 1611 W. Baltimore street into a branch exchange at a cost of \$6000. E. B. Hunting will erect seven two-story dwellings.

Baltimore, Md.—Schools, etc.—Building Inspector E. D. Preston will prepare plans for city's three proposed school buildings and for No. 22 engine-house; aggregate cost \$135,000.

Baltimore, Md.—Warehouse.—Cuyler & Mohler, manufacturers of plumbers' supplies, will erect four-story building, 50x134 feet, of brick and iron, to cost \$15,000. Henry S. Rippel has contract.

Baltimore, Md.—School.—City has purchased site at \$7000 and will erect school building. Address "The Mayor."

Baltimore, Md.—Warehouse.—Lloyd Jackson Company will build large warehouse. Lloyd L. Jackson will be president.

Berkeley Springs, W. Va.—Hotel.—Berkeley Springs Hotel Co., recently reported to erect new hotel and make other improvements at Berkeley Springs, has completed organization, with C. J. Orrick of Cumberland, Md., president; A. R. Unger of Keyser, vice-president; Eugene Van Rensselaer of New York, treasurer, and T. H. B. Dawson of Berkeley Springs, secretary.

Birmingham, Ala.—Buildings.—Dr. Cheek and J. R. Harsh will erect \$3000 building, and Hamilton, Orr & Dedman will erect \$3000 dwelling.

Birmingham, Ala.—Office Building.—Stone Bros., Limited, architects, New Orleans, La., will prepare plans for the 10-story office building reported last week; building will cost about \$300,000.

Cape Fear, N. C.—Crew Quarters.—J. K. Taylor, supervising architect, Washington, D. C., will open bids September 5 for construction of crew quarters at United States quarantine station, in accordance with drawings and specifications, copies of which may be had on application to above, or to medical officer in command at Southport, N. C.

Charlotte, N. C.—Opera-house.—Messrs. Whitmore & Wolfe are investigating with a view to establishing a \$30,000 opera-house.

Charlotte, N. C.—Library.—Wheeler, McMichael & Co.'s plans have been accepted for proposed \$20,000 Carnegie library; pressed brick, terra-cotta, copper dome, galvanized work, cut granite and Indiana limestone, steam heat, concrete and tile floors, also rubber tile, metal ceilings, plate glass, plaster, plumbing, etc., will be used in construction.

Chattanooga, Tenn.—Depot.—Frank P. Milburn of Columbia, S. C., has prepared plans for proposed enlargement of Southern Railway Co.'s freight depot at Chattanooga.

Chattanooga, Tenn.—Dwelling.—Mrs. Anna Hunt has let contract to Jos. Trimby for erection of \$6000 dwelling.

Clarksburg, W. Va.—Hospital.—Kessler Hospital will erect an addition. Address Dr. A. K. Kessler.

Clifton Forge, Va.—Building.—W. E. Circle of Glen Wilton will erect building at Clifton Forge.

College Park, Md.—Hospital.—Plans have been accepted for proposed hospital at Agricultural College, and call for one-story brick building, with slate roof. Address A. L. Harris, Laurel, Md.

Cuthbert, Ga.—Jail.—It has been decided by popular vote to issue \$10,000 of bonds for erection of jail previously reported. Building will be of brick and stone. Address "County Clerk."

Durant, Miss.—Hotel.—Walter Berryhill of Grenada will build hotel in Durant, as recently reported, to be three stories and cost \$10,000. Plans have been prepared, and contract will be let in a few days.

Durham, N. C.—Dwelling.—Barrett & Thompson of Raleigh have prepared plans for \$6000 dwelling for T. B. Fuller.

Durham, N. C.—College.—Pavilion will be built at Trinity College, of granite, with copper-tile roof, fountain, electric-light fixtures, etc., after plans by Hook & Sawyer of Charlotte. Address J. E. Stagg.

Fairmont, W. Va.—Building.—Sam R. Nuzum has sold site to a syndicate composed of Fairmont parties for \$30,000, on which will be erected a five-story brick and stone office building to cost \$100,000.

Florence, Ala.—Dwelling.—R. E. Coburn will erect two-story residence.

Forest, Miss.—Warehouse.—Chartered: Forest Warehouse Co., with capital stock of \$4000.

Fort Worth, Texas.—Roundhouse.—Fort Worth & New Orleans Railroad, Hans Holland, Waxahatchie, Texas, general manager, will build 12-stall roundhouse to cost \$10,000.

Greensboro, N. C.—Church.—First Presbyterian congregation will erect \$15,000 church after plans by Hook & Sawyer of Charlotte.

High Point, N. C.—Bank Building.—Hook & Sawyer of Charlotte have prepared plans for four-story granite bank building at High Point previously reported to be built by Elwood Cox.

Institute, W. Va.—Buildings.—C. B. Scott, president board of regents, will open bids August 21 for erection of two-story brick building for West Virginia Colored Institute in accordance with drawings and specifications prepared by George Henneman, architect, Charleston, W. Va. Drawings and specifications are on file at offices of Thomas C. Miller, Charleston; of Intelligencer, Wheeling; Commercial Gazette, Pittsburgh, Pa., and Commercial Tribune, Cincinnati, Ohio.

Jacksonville, Fla.—Office Building.—H. J. Klutho of New York city has completed plans for the proposed five-story business block to be erected at a cost of \$75,000 by Dyal-Upchurch Investment Co.

Jacksonville, Fla.—Apartment-house.—W. N. Emery has purchased site for and will build a three-story apartment-house.

Jennings, La.—Bank Building.—W. L. Stevens of Crowley is preparing plans and specifications for a \$20,000 bank building to be erected at Jennings.*

Knoxville, Tenn.—Store and Office Building.—James Anderson will erect three-story store and office building 35x75 feet.

Knoxville, Tenn.—Store Building.—Strong,

Braine, Epps & Monday will build three-story brick store building 50x75 feet.

Lexington, Ky.—Coliseum.—Navarre Athletic Club will erect a coliseum with seating capacity for 5000.

Lexington, N. C.—Church.—Episcopal congregation has had plans for church made by Hook & Sawyer of Charlotte. Address C. A. Hunt, chairman building committee.

Montgomery, W. Va.—Hotel.—B. H. Early is interested in erection of a new hotel.

Norfolk, Va.—Apartment-house.—Tazewell Apartment-House, Granby street, will be enlarged by erection of a \$40,000 addition.

Norfolk, Va.—Dwellings.—W. J. Crosby will erect five pressed-brick dwellings, three stories, with brownstone trimmings; contract not awarded.

Norfolk, Va.—Church.—Second Presbyterian congregation has purchased site at \$13,000 for proposed \$50,000 edifice; Rev. J. Ernest Thacker, pastor.

Orange, Va.—Dwelling.—C. R. Crawley will erect stone dwelling.

Oxford, N. C.—Dwelling.—Judge A. W. Graham has had plans made by Barrett & Thompson of Raleigh for erection of \$8000 dwelling.

Piedmont, W. Va.—Business Block.—T. C. Dye has awarded contract to W. A. Liller of Keyser for erection of business block.

Poplar Bluff, Mo.—Bank Building.—Sam Nicholls and J. M. Coxwell of De Soto have awarded contract to L. B. Walker for erection of their proposed bank building at Poplar Bluff.

Raleigh, N. C.—Dwelling.—Barrett & Thompson have prepared plans for \$10,000 dwelling for Marion Burt.

Raleigh, N. C.—Office Building.—Barrett & Thompson have prepared plans for the four-story pressed-brick, stone and marble building, previously reported to be erected by Carolina Trust Co.; contract will soon be awarded.

Richmond, Ky.—Warehouse.—George Myers has contract for rebuilding Letcher warehouse.

Richmond, Va.—Warehouse.—Southern Railway Co., F. S. Gannon, general manager, Washington, D. C., has had plans made for a four-story warehouse at Richmond to cost \$25,000.

Salem, Va.—Hotel.—W. M. Montgomery and W. H. Snow of Philadelphia, Pa.; W. H. Tinsley, Geo. W. Logan and others of Salem will erect a \$15,000 hotel on site of former Lake Spring Hotel. For particulars address W. H. Tinsley.

Salisbury, N. C.—Residence.—Capt. E. B. C. Hamley has had plans made by Hook & Sawyer of Charlotte for his proposed 18-room dwelling; will have hot-water heat, electric fixtures, modern plumbing, etc.

Salem, W. Va.—Schools.—City has decided to issue \$10,000 of bonds for erection of its proposed schools. Address "The Mayor."

Somerset, Ky.—Warehouse.—D. E. McMillen, representing machine shop and oil-supply house, will build large warehouse.

Tullahoma, Tenn.—School.—Chartered: Brandon Training School, by A. J. Brandon and others.

Union, S. C.—Hotel.—Union Hotel Co. has been incorporated, with capital stock of \$30,000, for operation of hotel already built, by A. H. Foster, T. C. Duncan, J. A. Fant and others.

Washington, D. C.—Pumping Station.—H. B. McFarland and associates, District commissioners, will open bids September 21 for construction of pumping station building 25x150 feet, of granite, marble, steel, etc., as described in specifications. Blank forms and other information furnished on application. A \$10,000 deposit will be required on each bid.

Weston, W. Va.—Hospital.—A. H. Kunst, M.D., superintendent, will open bids August 14 for erection of boiler-house at West Virginia Hospital for Insane in accordance with drawings and specifications prepared by R. H. Adair, Parkersburg, W. Va.; also for erection of new greenhouse. All plans on file at office of superintendent and of architect.

Wilson, N. C.—Hotels.—Charles Daniels has awarded contract for erection of a hotel. Capt. J. T. Wiggins will build brick hotel.

RAILROAD CONSTRUCTION

Railways.

Arlington, Ga.—Arlington & Columbus Railway has been chartered by J. E. Hanson, John M. Eagan, T. D. Kline, T. M. Cunningham, A. R. Lawton and others, with capital stock of \$500,000, to construct a railroad from Arlington to Columbus by way of Calhoun, Randolph, Stewart, Chattahoochee

and Muscogee counties. Principal office will be at Columbus. It was announced in these columns last month that contract had been let to J. H. Davidson of Thomasville and B. H. Hardaway of Columbus for the construction of an extension of the Georgia, Florida & Alabama Railroad from Arlington to Columbus, a distance of sixty-five miles.

Beaumont, Texas.—Beaumont & Port Arthur Suburban Railway will be the title of the proposed company lately reported, and it expects to construct a 23-mile electric railway to Spindle Top, Nederland, Port Arthur and Taylor's Bayou at a cost of \$550,000. It is stated the projectors are preparing now to commence work of construction. C. F. Price of Lima, Ohio, and others are interested.

Charleston, W. Va.—Pittsburg (Pa.) parties have incorporated the Western Washington Railroad Co. for constructing a railway from terminus of the Western Washington Railroad of Pennsylvania on West Virginia and Pennsylvania State line to a point in Brooks county, West Virginia. Capital stock is \$100,000.

Corbin, Ky.—Cumberland River & Nashville Railroad Co. has been incorporated to construct steam railway, standard gauge, from Corbin to Burnside, a distance of forty-three miles, and from Burnside to Monticello, a distance of thirty-two miles. Col. L. F. Hubble of Lancaster is the organizer, and expects work to begin by October 1.

Georgetown, Ky.—Georgetown & Lexington Traction Co., lately reported as to build to Lexington, twelve miles distant, has filed charter, nominal capital being \$51,000. Incorporators are B. B. Berry, Wm. Adams, H. P. Montgomery, Guy W. Mallon and Terrell Thompson. Younger Alexander of Brooksville, Ky., is president.

Greenville, S. C.—Greenville-Piedmont Traction Co. is reported to have ordered thirty-five miles of track for its proposed railway, and it is said that both steam and electrical power will be used. The lines proposed are from Greenville to Piedmont, a distance of twelve miles; also to Williamston and Pelzer, a distance of twenty miles. Routes are now being investigated. Company's capital stock is \$100,000, with privilege of increase to \$250,000. Geo. M. Bunting of Chester, Pa.; Jos. S. Keen, Jr., Baynard Hodge, H. P. Keen and James H. Dawes of Philadelphia, Pa., are the incorporators.

Louisville, Ky.—Peter Arlund, Thos. H. Leonard, P. Booker Reed, Chas. A. Parker and F. H. Beeman of Louisville, Ky., and George Borgerding of New Albany, Ind., have incorporated the Cumberland & Ohio Valley Railroad Co., with capital stock of \$500,000, and purchased 100 miles of railway in three separate sections between Shelbyville and Bloomfield, Lebanon and Greensburg and Scottsville, Ky., to Gallatin, Tenn. Gaps will be completed, 125 miles more, to form an air line from Madison, Ind., to Nashville, Tenn. It is reported that Peter Arlund has secured \$8,000,000 capital towards this project.

Monroe, Ala.—J. W. Black, J. T. McKeon, Geo. A. Glover, R. F. McConnell and others, all of Mobile, have incorporated the Monroe & Greenville Railroad Co., with capital stock of \$100,000, to construct railway from Monroe to Greenville.

Oliver Springs, Tenn.—Poplar Creek Coal & Iron Co. has decided to build a branch railroad from Oliver Springs to its mining property, three and one-half miles distant. About \$30,000 will be expended. Address company, care E. J. Sanford, Knoxville, Tenn.

Spring, Texas.—International & Great Northern Railroad has decided to issue \$25,000 bonds per mile on the Calvert, Waco & Brazos Valley branch for purposes to include the completion of the extension from Spring to Fort Worth. A. R. Howard of Palestine is treasurer.

Swainsboro, N. C.—There is talk of organizing a company to build a railroad to connect with the Wilmington & New Bern line. J. F. Prettyman, J. M. Jones and J. A. Pittman are interested.

Toano, Va.—Urbana, West Point & Yorktown Railway Co. is now securing rights of way for its proposed railway from Toano to Urbana. Thos. B. Henley of Newport News can be addressed.

Tuscaloosa, Ala.—The Southern Railway Co. (general offices at Washington, D. C.) has an engineering corps at Tuscaloosa to survey the route of the talked-of extension of the Searey or tidewater branch of the Mobile & Ohio Railroad. W. B. Crenshaw, Atlanta, Ga., chief engineer, is with this corps. It is said that about \$400,000 will be expended.

Vicksburg, Miss.—Directors of the Vicksburg & Southeastern Railroad have ordered an immediate survey of the proposed rail-

way to Hattiesburg, a distance of 140 miles. Major S. Whinery is chief engineer, and R. T. Engle is assistant. This department chronicled last week the statement of P. M. Harding, president, that the line would be built. The company is capitalized at \$1,250,000.

Walhalla, S. C.—Fairfax Harrison of Washington, D. C., one of the purchasers of the Blue Ridge Railroad, as reported last week, writes that no immediate extensions of the line are in contemplation. Mr. Harrison is of the Southern Railway Co.'s law department and it is understood acts for the company.

Weatherford, Texas.—Amendments have been approved to charter of Weatherford, Mineral Wells & Northwestern Railway providing for extensions to Jacksboro and Graham, a distance of sixty-one miles. Bonds will be issued for this extension. L. M. Fouts is general manager.

Westminster, Md.—Baltimore, Westminster & Gettysburg Railroad Co., mentioned last week, has begun survey for its proposed railway. The same organizers have also formed in Pennsylvania the Baltimore, Westminster & Gettysburg Street Railway Co., and the two companies will work in harmony. Their plan is to build 297 miles of electrical railway from Reisterstown, Md., to Westminster, Md., and thence by way of various towns in Pennsylvania to Harrisburg; also contemplate building from Westminster to Washington, D. C., and from Reisterstown through various towns to York, Pa., and from Gettysburg, Pa., to Emmittsburg, Md. First-mortgage bonds amounting to \$4,000,000 will be issued at once. Charles E. Fink of Westminster is vice-president.

Wheeling, W. Va.—Howard Hazlett, president of Pan Handle Traction Co., mentioned last week, writes that contract for construction of proposed railway to Wellsburg has been let to Springer & Hallock of Wheeling. The contract is for grading, masonry, timber and pile-trestling the entire distance of sixteen miles and will cost about \$190,000. Work will be commenced at once. Company will build its own power-house, contract for which has not yet been awarded, but contract for 70-pound rails in 60-foot lengths has been placed. Rolling stock will be bought next fall.

Whitehouse, Ky.—It is proposed to secure the extension of the Ohio & Big Sandy division of the Chesapeake & Ohio Railway from Whitehouse to Prestonsburg. W. S. Harkins of the latter place is interested in the movement.

Street Railways.

Atlanta, Ga.—Atlanta Railway & Power Co. will receive franchise for extension of its railway to College Park, and work of construction will then be commenced. Ernest Woodruff is president.

New Orleans, La.—New Orleans & Pontchartrain Railway Co. has organized, with capital stock of \$350,000, and George S. Kausler, president, to construct railroad in Orleans, Jefferson and St. Bernard parishes. Others interested are Messrs. Wm. H. McAfee, Walter E. Walmsey, Geo. E. Heath, Henry Baldwin and others. The projection of this railway was noted recently.

Machinery, Proposals and Supplies Wanted.

Manufacturers and others in need of machinery of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery needed we will make their wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. The MANUFACTURERS' RECORD has received during the week the following particulars as to machinery that is wanted.

Air Compressor.—Salem (N. C.) Iron Works wants new or second-hand air compressor capable of furnishing forty to fifty cubic feet air per minute at eighty pounds pressure.

Artesian Well-drilling.—It is said that bids are wanted for sinking an experimental well 500 feet deep for increased water supply. S. C. Lancaster, secretary trustees water board, Jackson, Miss., can inform.

Barrel Manufacturers.—Oscar Swineford, 1110 E. Main street, Richmond, Va., wants addresses of metal-barrel makers.

Belting.—See "Foundry Equipment."

Boat.—Breslauer, Lachicotte & Co., Waverly Mills, S. C., are in the market for small

screw steamer for light towing on smooth water, fifty to sixty feet long, with condensing engine and shell boiler.

Boat.—Gulf Dredging & Timber Co., Limited, 806 Gravier street, New Orleans, La., is in need of dredgeboat with a two-yard capacity.

Boiler and Engine.—See "Woodworking Machinery."

Boiler and Engine.—S. W. Shoop, Front Royal, Va., is in the market for a second-hand 25-horse-power engine and 35-horse-power return-tubular boiler with forty feet of stack, all pipe connections, fittings, etc.

Boiler and Engine.—P. H. Mangum, Jr., Wake Forest, N. C., wants second-hand engine and boiler, not less than twelve horse-power nor more than thirty horse-power; horizontal boiler preferred.

Boiler and Engine Specialties.—Cleveland Electric Light Co., Cleveland, Ohio, will buy jet condenser, 8x12x12.

Boilers.—J. L. McLaughlin & Son, Bedford, Pa., want prices (delivered) on 40-horse-power and 50-horse-power horizontal tubular boilers, either half or full front, complete with all fittings, including stack, guy wires, etc., post hangers, polished steel shafting and flange couplings (fitted) for same.

Boilers.—Walter Scott, Farmville, Va., is in the market for two 60-horse-power return-tubular boilers, second-hand or new.

Bridge.—Bids are wanted until August 22 for constructing a steel and wood span across Chattanooga river 100 feet long. Address A. S. Hamilton, Summerville, Ga.

Bridge.—Bids are asked until August 5 for constructing an 80-foot pile bridge on road No. 16; T. L. Bennett, clerk board supervisors, Holly Springs, Miss.

Bridge.—Board of supervisors, Vicksburg, Miss., wants bids until September 2 for constructing drawbridge over Big Back river, to be 140 feet long; W. H. Stanton, designing engineer; Wm. Curphy, president.

Bridge.—F. Seip, president police jury, Alexandria, La., will open proposals August 26 for furnishing all material and building complete a steel highway bridge, with foundations and approaches, over Bayou Rapides. Certified check for \$100 must accompany each bid. Usual rights reserved. For further particulars address Ira W. Sylvester, city engineer.

Bridge.—Road board of North river district, R. C. Blair, commissioner, Staunton, Va., will open bids August 10 for construction of steel bridge, span forty feet, 12-foot roadway and eleven feet above present bed of creek, over Naked creek; abutments to have wings an average length of fifteen feet. Usual rights reserved.

Building Materials, etc.—W. L. Stevens, Crowley, La., wants to negotiate for furniture, stone, press brick, architectural iron work, etc., for bank building.

Building Supplies.—E. B. Cushing, engineer maintenance of way, Houston, Texas, will receive sealed proposals until August 15 for furnishing 1,000,000 compressed brick, 300 barrels of lime and 1000 barrels Portland cement for use in building depot at San Antonio; 600,000 compressed brick, 1000 barrels of lime and 500 barrels of Portland cement for hospital at El Paso; quotations to be f. o. b. cars at points on Texas & New Orleans Railroad and Galveston & Harrisburg and San Antonio railway companies' lines. Usual rights reserved.

Cement.—See "Paint Cans."

Chair-factory Supplies.—Carlin Furniture Co., Chattanooga, Tenn., wants to correspond with dealers in finishing-room supplies.

Chemical Manufacturers.—See "Drug Store Equipment and Supplies."

Cotton-mill Machinery.—W. S. Jackson, Lumber, Texas, wants prices on machinery for cotton rope.

Creamery.—D. E. Pelper, Fort Worth, Texas, wants to purchase creamery machinery.

Drug-store Equipment and Supplies.—Holt-Helm Drug Co., Greensboro, N. C., will want elevator, floor cases (glass), fixtures, etc.; also wants price-list from manufacturers of chemicals, etc.

Electric-light Plant.—Board of public affairs, care F. M. Oliver, city clerk, Little Rock, Ark., will open bids August 15 for improving and enlarging city electric plant as follows: Four constant-current series dynamo of ninety lights each and 310 lamps of 2000 candle-power enclosed system and construction material. Specifications can be had upon application to John W. Bledt, superintendent electric plant, or to city clerk. Usual rights reserved.

Engine.—Edwards Lumber Co., Dovesville, S. C., is in the market for a second-hand logging engine.

Foundry Equipment.—J. D. Hanks, Rome,

Ga., will want machinery for stove foundry, including belting, etc.

Grist-mill Machinery.—C. G. Mercer, Georgetown, Ga., wants to buy two sets of mill rocks.

Heating Apparatus.—Christian Church, Chatham, Va., wants furnace for heating building 38x55 feet. Address Frank Marshall, Jr.

Ice-making Machinery.—Cronier & Pryor, Andalusia, Ala., wants to correspond with makers of ice machinery.

Ice Plant.—Emile C. Christmas, Aberdeen, Miss., wants prices on 15 to 20-ton ice plant.

Ice Plant.—L. E. Donohue, Ozark, Ark., desires prices on a five to ten-ton ice plant.

Ice Plant.—D. E. Pelper, Fort Worth, Texas, wants to purchase five or six-ton ice plant.

Lamps.—City of Barnwell, S. C., is in the market for street lamps. Address C. F. Calhoun, mayor.

Laundry Machinery.—J. K. Taylor, supervising architect, Washington, D. C., will open bids August 16 for laundry machinery for United States Marine Hospital, Mobile, Ala., in accordance with drawings and specifications, which will be furnished on application to supervising architect or at office of custodian at Mobile.

Laundry Machinery.—Boonville Steam Laundry, 208 Main street, Boonville, Mo., needs two washers 30x24, washer 30x48, extractor 20 inches and extractor, old, to repair; mangle 86 inches, small shirt stamper, stamper Dep wheel No. 1, eight-bar dryroom, wood, double coil, complete; truck, stationary tub, laundry stove, shafting, pulleys, belting, etc.

Machine Tools.—A. A. Vardell, Room 222, Linz Building, Dallas, Texas, wants prices and full description on cutting-off machine, three and one-half inches diameter; water tool grinder, No. 3 Diamond size; 10-inch steel lathe, lever attached; vertical checking machine and full set of tools, B. & S., No. 2; 72-inch bore mill, double head; slotting machine, 14-inch stroke; five-foot radial drill; multiple-spindle drill, three-spindle type; horizontal chucking machine, sixteen inches; cutter and reamer grinder; Gardner grinder; dimension planer, taking timber twelve inches thick, twenty inches wide; railway cut-off saw; hollow-chisel mortiser; wood-turning lathe, 12-foot bed, 16-inch swing, slide-rest attachment; four pneumatic boring tools; air compressor, with reservoir of 250 cubic feet per minute, and comb punch and shear, three-quarter-inch hole.

Marble.—E. L. Patton, East Lake, Ala., wants addresses of parties handling marble for dresser slabs, etc.

Marine Machinery.—See "Boat."

Paint Cans.—Shand Builders' Supply Co., Columbia, S. C., is in the market for paint cans and kits, and wants prices on Rosendale cement for direct shipment from factory in carloads.

Paper Mill.—Brown & Co., Barnwell, S. C., wants to know the cost of machinery for manufacturing blotting paper.

Piping.—County commissioners want to correspond with manufacturers of terra-cotta piping. Address care F. A. H. Schroeder, clerk, Walhalla, S. C.

Printing Machinery.—Bennettsville Printing Co., H. B. Crosland, secretary, Bennettsville, S. C., is in the market for \$1000 worth of machinery.

Quarrying Equipment.—F. H. Kennedy, 29 Hollander street, Roxbury, Mass., may be addressed regarding machinery for cutting and preparing soapstone for market.

Railway Equipment.—W. F. Jacoby & Co., 920 Stephen Girard Building, Philadelphia, Pa., are in the market for a six-ton electric mine locomotive.

Railway Equipment.—Pan Handle Traction Co., Howard Hazlett, president, Wheeling, W. Va., will buy cars next fall for electric railway.

Riding Galleries.—Harry McFarlin, Quincy, Fla., wants addresses of manufacturers of steam riding galleries.

Sea Wall.—Bids will be opened September 6 for construction of sea wall at Fort Monroe, Va. Information on application. Address United States engineer, 166 Granby street, Norfolk, Va.

Sewing Machines.—See "Trousers Machinery."

Steel Works.—Bids will be received until August 13 at office of building for library of Congress, B. R. Green, superintendent, Washington, D. C., for constructing, delivering and erecting in place complete two steel trussed covered ways in the east courts of the building. Specifications, general instructions, conditions and blank forms of proposals may be obtained upon application.

Telephone Equipment.—F. D. Drewry, Vir-

gillina Telephone Co., Virgilina, Va., wants telephone equipment.

Trousers Machinery.—R. F. W. Allston, Tryon, N. C., wants to correspond with manufacturers of pants machinery.

Water-works.—Elk Lick Midland Water Co. will open bids at Lonaconing, Md., August 22 for construction of masonry dam, pipe line and furnishing cast-iron pipe and specials, valves and valve boxes. All bids must be separate and addressed to Hugh L. Scott. Plans can be seen at company's office and at office of engineer. Specifications furnished to bidders. Usual rights reserved. Chas. S. York, engineer, 1526 East Biddle street, Baltimore, Md.

Well-drilling.—C. P. Townsley, quartermaster, Fort Monroe, Va., will open bids August 27 for sinking tubular well 2500 feet or less. Information furnished on application.

Well-drilling Machinery.—Southwest Virginia Petroleum Co., W. A. Pedigo, general manager, Roanoke, Va., wants experienced well-borer; also wants to correspond with manufacturers of well-boring machinery.

Wire-fence Machinery.—Geo. W. Moyers, Gainesville, Fla., wants names of parties making machines for weaving wire fencing which has lath woven in, and can then be rolled up in bundles for shipment.

Woodworking Machinery.—Ocmulgee Lumber Co., Macon, Ga., wants to correspond with manufacturers of planing and box machinery.

Woodworking Machinery.—W. J. Snead, 10 N. Seventh street, Richmond, Va., will want to purchase machinery for general wood-working, engine and boiler.

Woodworking Machinery.—Cronier & Pryor, Andalusia, Ala., want to correspond with makers of woodworking machinery.

Woodworking Machinery.—R. B. Malsby, Americus, Ga., wants prices on woodworking machinery.

TRADE NOTES.

Ball Engines.—Recent sales of Ball Engines made by the Ball Engine Co. of Erie, Pa., included a self-oiling engine for testing purposes for the University of Kansas; also a 125-horse-power self-oiling engine for electric plant in Denver.

Stillwell Heaters and Purifiers.—During the past week the Stillwell-Bierce & Smith-Valle Company of Dayton, Ohio, has shipped Stillwell Feed-Water Heaters and Purifiers to Illinois, Texas, Michigan, Pennsylvania and New York. The buyers were cotton-oil mills, coal companies and cement works.

Nicholson File Co. Extending.—The Nicholson File Co. of Providence, R. I., announces that it has bought the file and rasp manufacturing business of the J. Barton Smith Company of Fourth and Somerset streets, Philadelphia. This purchase increases the number of Nicholson regular brands of files and rasps to nine and largely improves facilities for their manufacture.

The Carlin Company.—The Carlin Machinery & Supply Co. of Allegheny, Pa., has shipped a 30-ton locomotive to Garysburg (N. C.) Lumber Co.; to Davis & Harris of Beaver, Pa., a 125-horse-power water-tube portable boiler to be used in quarries. This latter is said to be the largest portable boiler used in that region for quarrying; it operates hoisting, rock drills and other machinery.

Ellington Manufacturing Co.—The Ellington Manufacturing Co. of Quincy, Ill., undertakes the business, good-will, etc., of the Cornell Machine Co. of Chicago, and will continue to manufacture gas and gasoline engines, coal, ore and gravel handling machinery and operate a large foundry for malleable and gray iron. The company expects to be in its new quarters at Quincy within sixty days; W. T. Dwyer is president; H. T. Asbury, secretary and treasurer; L. J. Highland, sales manager; shops will be under management and superintendency of T. C. Kennedy. The shops' present capacity will be doubled.

New Yankee Drill Grinders.—It is interesting, as showing increasing popularity, to know that the orders for New Yankee Drill Grinders are on the increase. The Wilmarth & Morman Company of Grand Rapids, Mich., manufactures these machines. One day last week the company received fourteen orders, its largest sales ever made in a single day. Several of the orders were for export, and one was for four machines additional for the United States government. The Wilmarth Friction Clutch, made by the Wilmarth & Morman Company, will hereafter be furnished on the excellent line of keyseaters made by Baker Bros. of Toledo, Ohio, contract to this effect having just been signed.

FINANCIAL NEWS.

The Manufacturers' Record invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

NEW NATIONAL BANKS.

The South's Share of Institutions Recently Organized.

The South has shared liberally in the impulse given to the organization of national banks by the act of March 14, 1900. Of the 665 banks organized since that act became a law, 170 are in Southern States. Their number and capital by States are as follows:

State.	Number.	Capital.
Maryland.....	11	\$652,000
Virginia.....	11	330,000
West Virginia.....	11	455,000
North Carolina.....	8	225,000
South Carolina.....	2	85,000
Georgia.....	5	360,000
Florida.....	2	230,000
Alabama.....	7	325,000
Mississippi.....	2	100,000
Louisiana.....	6	600,000
Texas.....	85	3,343,000
Arkansas.....	3	75,000
Kentucky.....	10	2,095,000
Tennessee.....	7	230,000
Total.....	170	\$9,105,000

Texas leads the country in the number of new banks, and ranks third in the amount of capital involved. Pennsylvania's seventy-three new banks representing a capital of \$4,357,000, more than half the capital of such banks in the East, and Ohio's forty-two banks representing \$3,520,000, or more than a third of the capital in the new institutions of the eight middle Western States.

Of the total new capital of the new banks in the country, \$34,267,000, the capital of 208 banks, \$22,385,000, represents institutions having a capital of \$50,000 or more, and the capital of 457 banks, \$11,882,000, represents institutions with a capital of less than \$50,000. Of these, 109 are in the South, and their capital amounts to \$2,910,000.

On March 14, 1900, the number of national banks was 3617, with authorized capital of \$616,308,065. By July 31, 1901, the number had increased to 4217, and the capital to \$659,556,035. Of the new national banks, ninety-two, with a total capital of \$5,920,000, were State banks.

New Corporations.

The Bank of Green Forest, Ark., has been incorporated, with \$25,000 capital.

The Bank of Lafayette, Tenn., has been incorporated, with \$12,000 capital.

Application has been made for a charter for a national bank at Brownsville, Tenn.

The Citizens' Bank, the third bank in Elberton, Ga., has been chartered, with a capital of \$25,000.

The Bank of Grantville, Coweta county, Georgia, has been chartered, with a capital of \$25,000.

The Buffalo Savings Bank Co. of Buffalo, Ky., has been incorporated, with \$15,000 capital stock.

Application has been made for a charter for the Century Building & Loan Co. at Greensboro, N. C.

The Charlotte (N. C.) Mutual Investment Co., with \$100,000 authorized capital, has been chartered.

The Spartan Building and Loan Association of Spartanburg, S. C., has been chartered with an initial capital of \$60,000.

New Securities.

Baird, Texas, will issue \$4500 worth of bonds to improve water-works.

Houston, Texas, is preparing to issue \$240,000 worth of bonds for paving

streets, \$60,000 worth for sewerage and \$50,000 for school buildings.

McCracken county, Kentucky, will issue \$16,000 worth of road improvement bonds.

The Western Insurance Co. at Louisville, Ky., will increase its capital stock from \$100,000 to \$150,000.

The city of Augusta is preparing for a refunding of a debt represented by three issues of bonds falling due on November 1, December 1 and January 1 next, respectively.

Because of a misunderstanding about the sale of \$76,000 worth of 3½ per cent. bonds, the city council of Martinsburg, W. Va., has decided, it is reported, to re-advertise the issue, making it one of 4 per cent.

The city of Beaumont, Texas, sold last week to Messrs. Exall, W. B. Sharpe and Edward Prather of Beaumont \$115,000 worth of sewerage and street-paving bonds. The price was \$123,958.33, including a premium of \$8000 and accrued interest of \$958.33.

Financial Notes.

The 117 State banks in Mississippi, sixteen more than the number in operation in 1900, have \$3,376 depositors.

During the first six months of this year fifteen banks have been chartered in Georgia, none of them with capital less than \$25,000.

The State of Minnesota purchased last Monday \$75,000 worth of Virginia bonds, making a total of \$1,500,000 now held by Minnesota.

SOUTHERN COTTON-MILL STOCKS.

Quotations Furnished by Hugh MacRae & Co., Wilmington, N. C., for Week Ending August 6.

	Bid.	Asked.
Abbeville Cotton Mills (S. C.).....	91	91
Aiken Mfg. Co. (S. C.).....	90	93½
Bennettsville Mfg. Co. (S. C.).....	103	103
Anderson Cotton Mills (S. C.).....	129	129
Arkwright Mills (S. C.).....	117	117
Augusta Factory (Ga.).....	80½	80½
Avondale Mills (Ala.).....	82½	82½
Belton Mills (S. C.).....	100	100
Bennettsville Mfg. Co. (S. C.).....	100	100
Cabarrus Cot. Mills (N. C.) new.....	120	120
Clifton Mfg. Co. (S. C.).....	175	175
Clinton Cotton Mills (S. C.).....	121	121
Courtenay Mfg. Co. (S. C.).....	117	120
Dallas Mfg. Co. (Ala.).....	90	100
Darlington Mfg. Co. (S. C.).....	97½	97½
Eagle & Phenix Mills (Ga.).....	100	100
Enoree Mfg. Co. (S. C.).....	113	118
Enterprise Mfg. Co. (Ga.).....	100	103
F. W. Poe Mfg. Co. (S. C.).....	116	116
Geoffrey Mfg. Co. (S. C.).....	112	112
Granby Cotton Mills (S. C.).....	100	100
Granby Cotton Mills (S. C.) 1st Pfd.....	106	106
Granville Mfg. Co. (S. C.).....	160	164
Greenwood Cotton Mills (S. C.).....	96½	100
Grendel Mills (S. C.).....	100	103½
Henderson Cotton Mills (N. C.).....	120	125
Henrietta Mills (N. C.).....	200	200
John P. King Mfg. Co. (Ga.).....	100	102
Langley Mfg. Co. (S. C.).....	112½	112½
Laurens Cotton Mills (S. C.).....	135	145
Lockhart Mills (S. C.).....	102½	102½
Loray Mills (N. C.).....	90	90
Louise Mills (N. C.).....	101½	101½
Lynchburg Cotton Mills (Va.).....	125	120
Lynchburg Cotton Mills (Va.) Pfd.....	145	150
Manchester Cotton Mills (S. C.).....	115	115
Mayo Mills (N. C.).....	150	150
McColl Mfg. Co. (S. C.).....	100½	100½
Newberry Cotton Mills (S. C.).....	113½	113½
Orr Cotton Mills (S. C.).....	102	102
Pacolet Mfg. Co. (S. C.).....	200	200
Pelzer Mfg. Co. (S. C.).....	172	180
Piedmont Mfg. Co. (S. C.).....	175	180
Raleigh Cotton Mills (N. C.).....	116	116
Richland Cotton Mills (S. C.).....	104	107
Richland Cotton Mills (S. C.) Pfd.....	100	104
Ronoke Mills (N. C.).....	90	90
Sibley Mfg. Co. (Ga.).....	78	81
Southern Cotton Mills (N. C.).....	96	100
Spartan Mills (S. C.).....	130	138
Trion Mfg. Co. (Ga.).....	125	135
Tuacapa Mills (S. C.).....	128	128
Union Cotton Mills (S. C.).....	148	148
Union Cotton Mills (S. C.) Pfd.....	100½	106
Victor Mfg. Co. (S. C.).....	106	106
Warren Mfg. Co. (S. C.).....	90	90
Warren Mfg. Co. (S. C.) Pfd.....	104½	104½
Washington Mills (Va.).....	100	100
Whitney Mfg. Co. (S. C.).....	120	120
Wilmington Cot. Mills (N. C.) Pfd.....	100	105
Wiscasset Mills (N. C.).....	115	115

Niagara Power.—Although much has been written and many illustrations published of the wonderful results of the power generated by Niagara Falls, a little work has recently been issued which is really full of interest. It shows to what a marvelous extent power is being distributed for manufacturing, transportation and other purposes. The main power-house, as well as the plants which depend up it, are treated, also the electric railroad between Buffalo and Lockport, which is operated for freight traf-

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fe. The various industries include grain elevators, electrical lead-reduction plants, carbide works and the manufactories of special food. The pamphlet and any other information can be obtained by addressing the Niagara Falls Power Co. of Niagara Falls, N. Y.; the Tonawanda Power Co., 40 Court street, Buffalo, N. Y.; or the Cataract Power & Conduit Co., also of Buffalo.

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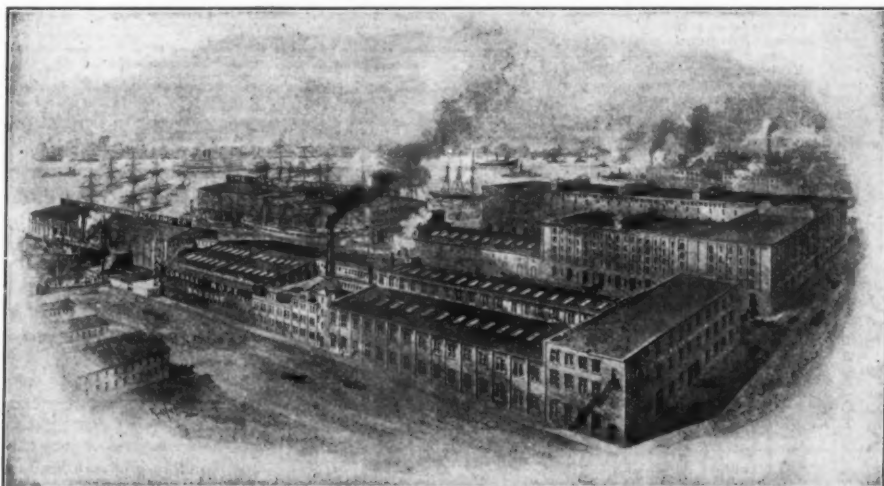
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PROPOSALS.

U. S. ENGINEER OFFICE, 166 Granby St., Norfolk, Va., August 5, 1901.—Sealed proposals for constructing sea wall at Fort Monroe, Va., will be received here until 12 M. September 6, 1901, and then publicly opened. Information on application.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., July 26th, 1901.—Sealed proposals will be received at this office until 2 o'clock P. M. on the 22d day of August, 1901, and then opened for furnishing and installing new Boiler Plant for the U. S. Marine Hospital at Cleveland, Ohio, in accordance with drawings and specifications, copies of which will be furnished, at the discretion of the Supervising Architect, on application at this office or at the office of the Custodian at Cleveland, O. JAMES KNOX TAYLOR, Supervising Architect.

TREASURY DEPARTMENT, Office Supervising Architect, Washington, D. C., August 6, 1901.—Sealed proposals will be received at this office until 2 o'clock P. M. on the 5th day of September, 1901, and then opened, for the construction of Quarters for Detained Crews at the U. S. Quarantine Station, Cape Fear, N. C., in accordance with drawing and specification, copies of which may be had, at the discretion of the Supervising Architect, by applying to this office or to the Medical Officer in Command, at Southport, N. C. JAMES KNOX TAYLOR, Supervising Architect.

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Sealed proposals, addressed to the Commissioners' Court of Harris County, Texas, at Houston, Texas, will be received up to 12 o'clock noon on Thursday, August 22, A. D. 1901, for furnishing the necessary material and constructing twenty-five (25) miles (approximately) of paved roads, including the necessary grading, embankment and ditching, in accordance with plans and specifications now on file in the office of County Surveyor, Wm. Bradburn. All bids must be accompanied by a certified check upon some local bank for five (5) per cent. of the amount of the bid, to be forfeited as liquidated damages by the successful bidder who fails to enter into contract and bond as required.

Successful bidders will be required to enter into a bond in a sum equal to one-fourth of the contract price, conditioned upon the faithful performance of the contract. The right is reserved to reject any and all bids. Specifications and any information wanted will be furnished to all intending bidders who request same from County Surveyor.

E. H. VASMER,
County Judge Harris County, Texas.

BIDS FOR NEW COURTHOUSE.

Bids for the new Courthouse at Cartersville, Georgia, are wanted on September 17th, 1901, to be handed to L. B. Matthews, Chairman Board of County Commissioners, Barrow County, Georgia. Plans can be seen at the office of L. B. Matthews, Cartersville, Georgia; Kenneth McDonald & J. F. Shebley, Architects, of Louisville, Ky., and J. W. Golucke & Co., Architects, Atlanta, Ga. For further information apply to either of the above named persons. L. B. MATTHEWS, Chairman.

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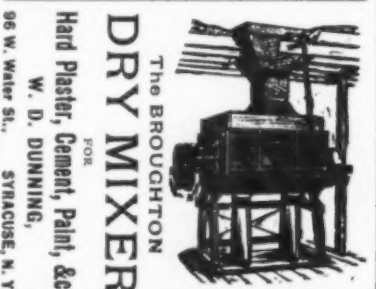
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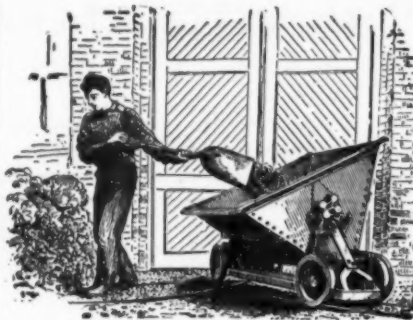
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ALPHABETICAL INDEX OF ADVERTISERS.

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The prices of steam coal at the mills vary from \$1.00 to \$1.75 per ton. Labor is 25 per ct. cheaper than in the rigorous climate of the North, and finished goods may be transported to all markets, domestic and foreign, at rates as favorable as those accorded to other manufacturing districts in the United States. For descriptive pamphlets, maps, rates, etc., call on or address

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WEST PASCAGOULA, MISS.

By J. E. CONANT & CO., Auctioneers, OFFICE, LOWELL, MASS.

It is the unanimous judgment of the Trustees in Bankruptcy that they immediately advertise and sell at **ABSOLUTE AUCTION SALE** the completely equipped plants, together with the tenement property of the **PROSPECT WORSTED MILLS** and of the **GLOBE WORSTED MILLS** (widely and favorably known for the manufacture of worsted yarns), **LAWRENCE, MASS.** The plants, which are located in different sections of the city, are to be sold in two separate parcels, the sale to take place upon the respective premises regardless of any condition of the weather; to be without limit or reserve to the highest bona fide bidders; to begin promptly at half-past 2 o'clock in the afternoon with the Prospect Mills, following at 3.45 o'clock with the Globe Mills, and finishing at 4.15 o'clock with the tenement property adjacent to the Globe Mills, Thursday, the 22d day of August, 1901.

PROSPECT WORSTED MILLS.

(South Side of City.)

The business was originated by Butler & Robinson in 1863, or north canal of Essex Company. In 1879 was moved to south canal of Essex Company or the plant we now offer. The business, which was incorporated in 1892, and capitalized for \$150,000, as Prospect Worsteds Mills, has proved very prosperous and successful. Its present financial straits was caused by endorsements for another corporation. The plant is modern; the real estate and machinery good; the equipment ample; the plant has run continuously and without interruption from 1879 up to day of assignment. A very recent appraisal of this plant, made by William D. Hartsborne, agent Arlington Mills, Lawrence, Mass.; William H. H. Whiting, assistant secretary Arkwright Mutual Fire Insurance Co., vice-president Paper Mill Mutual Insurance Co., appraiser and adjuster of mill properties, Boston, Mass.; Charles H. Littlefield, civil engineer and appraiser and eight years chairman board of assessors, Lawrence, Mass., was less stock in trade and cash in bank, \$123,850.47. (A copy of appraisal in detail appears in catalogue of sale.) Now it is to be sold for just what is bid for it. The property is splendidly situated in best worsted labor district in America, on south bank Merrimack river, in a nest of active, varied and modern industries of good repute, all in successful operation; has perfect railroad facilities and connections with western division of B. & M. R. R. system; perpetual right to the use of 150 horse-power from canal at fixed charge of \$3000 per year; also ample chance to get all necessary added power required at very reasonable rates. Land has frontage of 200 feet on river, 200 feet on railroad and street; is 250 feet deep. Buildings: Brick buildings—Main mill, 58x124 feet, four stories and gravel roof; one-story ell, 35x130 feet; one-story ell, 27x60 feet; office building, 20x32 feet, one and one-half stories, with basement; ell, 14x20 feet and 10x11 1/2 feet. Wooden buildings—Sorting-room, 27x11 feet; three storehouses, 25x66, 18x17 and 25x40 feet; stable, 22x32 feet; engine-house, 13x76 feet; power elevator tower from ground to roof of mill, 10x10 feet; sheds, etc. Capacity, 8000 pounds 2-ply 40's worsted yarn per week. Power from canal through five-foot iron penstock to pair of McCormick improved horizontal wheels. Auxiliary steam plant: Green improved 75-horse-power Providence Engine Co. engine, two 75-horse-power boilers, etc. The plant is a going concern and the reputation of its product is first-class.

Since the assignment, last December, both properties have received the best of care and attention; the cards have been turned over every day. The premises will be open for inspection after Thursday, August 15. The Trustees are convinced that former owners are not bidders. The purchaser of either plant can turn out yarn within forty-eight hours of the hour raw material goes into the mill.

The purchaser of the Prospect Worsteds Mills must deposit with or secure to the auctioneers \$10,000 as soon as the property is struck off.

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The Trustees have arranged that 50 per cent. of the purchase money, on either plant, may remain on mortgage for a term of one year, with interest at a rate not to exceed 4 1/2 per cent. per annum. The deeds to be taken in thirty days, and purchasers to pay the taxes for the current year. All inquiries by mail, telephone or otherwise must be made at the office of the Auctioneers, where you should send for an illustrated catalogue of the property.

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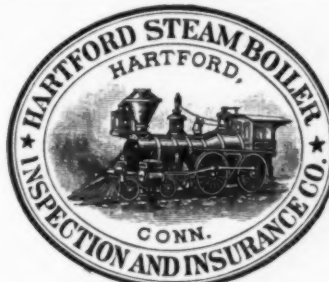
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Best in the World.

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Woodworking Machines

- 1 26" Woods Double Surfer.
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ATTRACTIVE PRICES.

THOMAS P. CONARD,
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FOR SALE.

SECOND-HAND WOOD-WORKING MACHINERY.

- 14" Keystone Matcher.
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- 38 Rawley & Hermance Re-saw.
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- Tenoners, Pony Planers, Mortisers, Jig Saws, Sanders, Gasoline Engines, Fans, Jointers, Lathes.

Blue prints of all machines will be sent upon application. Write and get our prices before buying.

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STRUCTURAL IRON WORK

For Immediate Delivery.

EYE BEAMS, from 3 in. to 20 in. CHANNELS, from 1 1/4 in. to 15 in. ANGLES, 1 in. to 6 in. FLATS & BARS up to 20 in. wide. ROOF TRUSSES, GIRDERS, COLUMNS, and BRIDGES designed and built.

Bridge Railings a Specialty.
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High Speed	No.	H. P.	Maker	Cylinders
	1	200	Buckeye	16 1/2 x 27
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	1	65	Beck-Taylor	10 1/2 x 12
	1	60	Ball	10 x 12
	1	40	A. & S.	8 1/2 x 12
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SECOND-HAND.

We have a number of Dynamos and Motors, which we have displaced with larger units. These are all overhauled and guaranteed to be in good working order before shipping. The prices are very moderate indeed.

Your correspondence is solicited.

THE W. C. BENBOW CO.

Manufacturers' Agent, COLUMBUS, OHIO.

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Second-hand Corliss Engines,

100, 150, 200, 350, 500 and 800 H. P. Boilers, all sizes. Steam Pumps in great variety. Send for bargain list of second-hand machinery.

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FOR QUICK SALE.

A nine-inch four-side Horizontal Moulder, in good running condition. Will be sold at a reduction before removal. Address

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3 80-horse power Return Tubular Boilers in good condition.

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Largest Stock in the World.

Send for our Monthly Bargain Sheet, with lowest net cash prices on machines in stock—Everything Fully Guaranteed. Capital, \$100,000.00 Paid up.

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Second-Hand Machinery

- 12 & 20" triple-gear pit, A1.
- 96x14 Wilmarth, triple-gear.
- 60x20 Wilmarth, triple-gear.
- 46x43, double-head.
- 48x14 Fitchburg, C. R.
- 37x23 triple-gear, F. G.
- 36x18 Betts, double-gear, C. R.
- 30x23 D. W. Pond, C. R. & P. C. F., A1.
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- 26x10 New Haven.
- 23x8 Putnam, R. & F.
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- 30x9 D. W. Pond, P. G.
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Also large assortment of box monitors, speed and turret lathes.

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- 72x72x13 Ohl, three heads.
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- 200-pound Hackney pneumatic powerhammer.
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- 48" Blackford ditto, A1.
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- 16" Gould & E. ditto.
- 28" Smith & Millie shifting belt.
- 40" Michel sld. hd. drill, B. G. & P. F.
- 25" Gould & E. ditto, A1.
- 60" Keystone radial.
- 25" Barnes back-gear & power-feed drill.
- 2 No. 2 Becker vert. millers, with rotaries.
- No. 15 Garvin plain miller, B. G.
- No. 1 Brown & Sharpe univ., with arm.
- No. 1 Brown & Sharpe univ., without arm.
- No. 6 Brainard plain miller, Lincoln type.
- Nos. 2, 3 and 4 Landis grinders.
- 27x18 Springfield surface grinder.
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- 19" 6" Swanscot plate planer.
- 8" 3" power bending rolls.
- Double-end punch and shear, very heavy.

Also large assortment of other tools. Send for list.

PRENTISS TOOL & SUPPLY COMPANY,

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Largest Assortment. Immediate Delivery.

- 1 30"x60" Green Engine.
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- 1 13"x30"x16" McEwan Tandem Comp. Engine.
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- 2 15"x36" Armington & Sims Engines.
- 1 15"x30" Buckeye Automatic Engine.
- 1 14"x15" Ideal Engine.
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- 1 10"x18"x12" Ball Tandem Compound Engine.
- 14 Water Tube Boilers, 165 to 200 lbs. steam pres.
- 22 Horizontal Tubular Boilers.
- Several full Railway Equipments.

Large stock of Machine Tools. Let me know your wants.

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FOR SALE—CHEAP FOR CASH.

- One 18x42 Wetherill-Corliss Engine.
- One each 18x36 and 14x28 Naylor Horizontal Engines, with Goodwin's automatic cut-off governors.
- One 14x16 Straight Line Automatic Engine.
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- One 1200-light Thompson-Houston Dynamo.
- Two 45 Arc Light Waterhouse Dynamos.
- Return Tubular Boilers from 25 to 125 H. P.; Tanks, Smoke Stacks, Pipe and Boiler Tubes.

Perfect satisfaction guaranteed.

JOHN HENNING & SON,

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FOR SALE.

- 2 Band Saw Mills, 1 Brick Plant, 1 Endless Rope Mine Haulage Plant, 4 10-ton Shay Geared Locomotives, 18 standard gauge Flat Cars, Boilers, Engines, Rail and Equipment.
- WANTED—Relay Rail, Second-Hand Equipment, Locomotives, Cars, Etc.

THE MILLER SUPPLY CO.,

Huntington, W. Va.

Second-Hand MACHINERY

For Immediate Delivery.

- 1 36 in.x36 in.x9 ft. Sellers Planer, 1 head.
- 1 36 in.x36 in.x7 ft. Sellers Planer, 1 head.
- 1 30 in.x30 in.x10 ft. P. & W. Planer.
- 1 32 in.x32 in.x10 ft. P. & W. Planer.
- 1 3 Spindle Jones & Lamson Drill Press.
- 1 6 Spindle Nut Tapper, 1/2 in.
- 1 10 in New Haven Shaper.
- 1 Bement Traverse Shaper, 60 in. table, 14 in. Stroke.
- 1 Bement Traverse Shaper, 72 in. table, 12 in. Stroke.
- 1 No. 1 Brainard Universal Milling Machine.
- 1 No. 4 Lodge & Davis Universal Milling Machine.
- 1 Portable Air Compressor, motor driven.
- 1 No. 7 Long & Allstatter Punch.
- 1 20 in.x21 ft. Johnson Engine Lathe.
- 1 46 in.x24 ft. Engine Lathe.
- 1 48 in.x24 ft. Engine Lathe, triple geared
- 1 14 in.x6 ft. Blaisdell Engine Lathe.
- 1 16 in.x8 ft. Blaisdell Engine Lathe.
- 1 24 in. Gisholt Turret Lathe.
- 1 28 in. Gisholt Turret Lathe. (New.)
- 1 60 in. Heavy Radial Drill, 5 in. spindle.
- 1 42 in. Betts Radial Drill.
- 1 3 in. National Bolt Cutter.

U. Baird Machinery Co.

123-125 Water Street,

PITTSBURG, PA.

FOR SALE.

Boiler Bargains.

- 3 125 H. P. 72"x16", 76 4" tubes.
- 1 Double Deck Hor. Boiler, 60"x14", with steam drum 48"x15", 74 3" tubes.
- 1 80 H. P., 60" diam., 16' long, 49 4" tubes. All above good for 90 lbs. or more.
- 10 Hughes Duplex Steam Pumps, 4" suction, 3" discharge; in fine working order.

Cheap to quick buyers. Large line of Vertical and Horizontal Boilers and Engines and Machinery of all kinds.

J. D. MALLORY,

22 Light Street, Baltimore, Md.

BARGAINS IN

Good Second-Hand Machinery.

- 72 inch Boring and Turning Mill.
- 10 Ton De-La-Vergne Ice Machine.
- 12x12 and 13x12 Armington & Sims Automatic Engine.
- 19x16 Chambersburg Automatic Engine.
- 250 Horse Corliss Engine, Geo. Corliss make.
- 75 Horse Naylor-Corliss Engine.
- No. 3 and 4 Baker Pressure Blowers.
- No. 7, 8, 9, Sturtevant Pressure Blowers.
- 25x10 ft. New Haven Engine Lathe.
- 12, 14, 15, 16 inch Engine Lathes.
- 20, 24, 25 inch Drill Presses.
- Steam and Belt Pumps. 50 Horse Berryman Heaters.

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FOR SALE.

- 1 Lidgerwood Double 8"x10 Double Drum Hoisting Engine.
- 1 16"x30"x42' Cooper Corliss Tandem Compound Engine, with 15 ton fly wheel, 18"x38" face.
- 1 Ingersoll Compressor, 16-16x24.
- 1 Morris Co. Compressor, 9 1/2"x9 1/2"x15.
- 1 Rand Belt Driven, 6"x6".
- 2 Cockburn Concrete Mixers.

J. C. SEXTON, 18 Broadway, New York.

FOR SALE.—Engine, 12x16, \$300. Three Traction Engines, 10 and 12-horse, \$300 each. 10 and 12-horse Portable on wheels, \$200 each. Engine Lathe, 20" swing, \$150. 16" Speed Lathe, Pratt & Whitney, \$60. Pratt & Whitney Drill Press, \$15. Five Boilers, 50"x18", 20 flues 6", \$300 each. Upright Boilers, Engines all sizes. Double Saw Mill, Brownell make, 36' carriage, a head blocks, complete, \$350. 35 Engines and Boilers, from 6 to 100-horse, at buyers' prices. D. L. CASEY MACHINE CO., Springfield, Ohio.

MACHINERY.

BOILERS—HORIZONTAL.

(Second-hand.)

- No. B-97-36"x8", 25 3" tubes. No. B-106-50"x14", 41 4" tubes. No. B-96 1/2-30"x8", 20 3" tubes.
- No. B-99-40"x10", 32 3" tubes. No. B-105-48"x14", 47 3" tubes. No. B-109-54"x15", 64 3" tubes.
- No. B-112-60"x12", 46 3 1/2" & 2 1/2" tubes. No. B-116-60"x6", 28 4 1/2" tubes (5). No. B-125-72"x5 1/2", 61 4" tubes. No. B-102-60"x12", 70 3 1/2" tubes. No. B-100-44"x10", 38 3" tubes. No. B-113-60"x15", 52 4" tubes. No. B-114-60"x16", 54 4" tubes. No. B-104-48"x12", 54 3" tubes. No. B-98-40"x10", 32 3" tubes. No. B-96-54"x12", 71 3" tubes. No. B-99 1/2-40"x10' 4", 34 3" tubes.

BOILERS—VERTICAL.

(Second-hand.)

- No. B-157-42"x6", 109 2" tubes, submerged.
- No. B-148-30"x5", 42 2"x3 1/2" tubes. No. B-84-36"x8", 68 2"x5 1/2" tubes. No. B-149-28"x5", 37 2"x2 1/2" tubes. No. B-162-28"x5", 37 2"x3 1/2" tubes.
- No. B-151-30"x6", 55 2"x3 1/2" tubes, submerged.
- No. B-150-30"x8", 50 2"x3 1/2" tubes, submerged.
- No. B-160-30"x6' 6", 37 2"x4 6" tubes.

(New.)

No. B-144-24"x6", 24 2"x4 9" tubes.

PORTABLE BOILERS.

(Second-hand.)

- No. B-131-15 H. P., 24 3"x5" tubes. No. B-133-18 H. P., 28 3"x5" tubes. All second-hand, in good working order.

ENGINES—HORIZONTAL.

(Second-hand.)

- No. B-1-10"x16". No. B-6-7"x10". No. B-8-7 1/4"x10". No. B-22-9"x18". No. B-27-13"x18". No. B-28-11"x16". No. B-29-7 1/4"x14". No. B-37-12"x20". No. B-49-12"x15". No. B-44-14"x20". No. B-45-5"x10". No. B-46-18"x27", four valves.
- No. B-4-4"x8". No. B-12-12"x12". No. B-12-6 1/2"x12". No. B-17-8"x12". No. B-20-10"x12". No. B-16-6"x10". No. B-7-6"x12". No. B-11-8"x12". No. B-21-12"x24". No. B-39-14"x12". No. B-41-7"x10".

(New.)

- No. B-4-6"x8". No. B-9-7 1/2"x7 1/2". No. B-13-5"x12". No. B-14-8"x10". No. B-23-11"x14". No. B-36-9"x12". No. B-15-10"x14". No. B-31-10"x12". No. B-18-10"x15" (2). No. B-10-8"x10".

ENGINES—VERTICAL.

(Second-hand.)

- No. B-51-4"x5". No. B-52-3"x5". No. B-53-4 1/2"x7". No. B-57-5"x7". No. B-58-5"x8". No. B-59-8 1/4"x5 1/2". No. B-61-5 1/2"x16"x3". No. B-69-8"x8". No. B-68-9"x9" (double). No. B-70-9"x9". No. B-64-6"x6".

(New.)

- No. B-50-3 1/2"x3 1/2". No. B-54-4 1/2"x5 1/2". No. B-55-6"x6". No. B-56-5"x5". No. B-65-7"x7". No. B-49-10"x10". Second-hand engines in good order, and all equipped with usual fixtures.

ENGINES—GASOLINE.

(New.)

No. B-89-7 H. P. No. B-90-6 H. P.

AIR COMPRESSORS.

(Second-hand.)

- No. B-501-5"x5". No. B-504-9 1/2"x9 1/2"x10". No. B-505-9 1/2"x5 1/2"x11". No. B-507-water air compressors (3). No. B-508-water air compressors (2). No. B-509-water air compressors (C^o). No. B-510-2 1/2"x6 1/2" (double). No. B-500-8"x16"x12". No. B-502-6 1/2"x8 1/2"x6". All in good order.

Write us for any machinery wanted, or if you wish to exchange or sell. To close out the above quickly will make specially low prices for prompt cash.

C. C. Wormer Machinery Co.

24-40 Shelby Street,

DETROIT, MICH.

BARGAINS.

- 14 in x6 ft. Eng. Lathe, Young.
- 14 in x6 ft. " " Prentice.
- 16 in x8 ft. " " Davis.
- 24x16 ft. " " Fifeild.

- 20 in. B. C. Drill, Hoefler.
- 24 in. B. C. Drill, New Haven.
- 25 in. B. C. and Power Feed Drill, Hoefler.

30x30x12 ft. Planer, 2 heads, Belmer-Eames.

Sensitive Drills, Power Presses, Millers, Screw Machines, etc.

If you wish to buy or sell, let me know. Can give bargains in new and second-hand machines at all times for immediate shipment.

GEO. E. AFFLECK,

109 Liberty St., New York.

FOR SALE.

1 Fairbanks Gasoline Engine (30 horse power). This engine is new and complete in every particular, including a 40-gallon galvanized tank, 1 box batteries, fixtures, piping, belting, and an extra 525-gallon galvanized gasoline tank. Will sell at a great bargain. 1 Steam Fire Engine, late from Baltimore department. 4 Hoisting Engines, 12, 15, 18 and 25-horse power respectively. A number of single and duplex Steam Pumps. Cistern, Deck and Deep Well Pumps (new). General machine work and repairing. 1 make a specialty of repairing Steam Pumps, High-speed and Gasoline Engines.

W. W. HIRK,

406 E. Pratt St., Baltimore, Md.

2 Osgood Dredges

FOR SALE.

Hull 70x17x6 ft. with 6x29 ft. pontoons. 14 Yd. Dipper Steel Boom, 45 ft.

J. C. SEXTON,

18 Broadway, NEW YORK.

For Sale

We offer the following items
subject to prior sale:

ENGINES.

- 2 250 H. P. high-duty Atlas, rope driven.
- 1 pair Williams engines, 250 H. P. each.
- 1 22x60 Rankin-Fitch Corliss.
- 1 12x34 Putnam.
- 1 13x34 Fitchburg.
- 1 20x30 slide valve.
- 1 18x28 Nichols Burr.
- 1 22x36 Wright Corliss.
- 1 13x22 1/2 x 15 cross compound Armstrong & Sims.
- 1 15x17 Ideal.
- 1 15x16 Ball.
- 1 13x12 Ball.
- 1 12x12 Armstrong & Sims.
- 1 pair twin engines, 15x22.
- 1 20x40 automatic, with Nordburg governor.
- 1 McEwen compound.
- 1 Payne compound.
- 1 10x20x20 Rice automatic.
- 1 14x20 Atlas slide valve.
- 1 12x20 Atlas slide valve.
- 1 11x16 Atlas slide valve.
- 1 12x24 automatic.
- 1 12x24 slide valve.
- 10 Tiff engines, 9x12.
- 10 Tiff engines, 8x12 (reversible).
- 1 10x18 Buckeye.
- 1 11x16 Russell automatic.
- 1 8x14 Taylor-Breck.
- 6 10x22 plain slide valve.
- 1 9x14 slide valve.
- 1 10x18 vertical.
- 1 9x9 vertical Racine.
- 1 9x15x9 Westinghouse.
- 1 13x22x13 Westinghouse.
- 1 14x24x14 Westinghouse.
- 2 12x20x12.
- 1 10x8x10.
- 1 6x4x8.
- 1 11x10 Standard.
- 1 10x9.
- 1 12x11.

GAS AND GASOLINE ENGINES.

Gas and gasoline engines from 1 to 50 H. P.

BOILERS.

- 20 60x18 tubular.
- 10 60x16 tubular.
- 12 54x16 tubular.
- 4 72x20 tubular.
- 4 72x18 tubular.
- 1 Helme safety boiler, 80 H. P.
- 1 Sterling water tube, 125 H. P.
- 1 200 H. P. internally fired boiler.
- 1 25 H. P. upright fire box boiler.
- 1 35 H. P. upright fire box boiler.
- 1 40 H. P. upright fire box boiler.
- 1 45 H. P. upright fire box boiler.
- 1 50 H. P. upright fire box boiler.
- 1 60 H. P. upright fire box boiler.
- 1 80 H. P. "Economic" Erie City.
- 1 450 H. P. Hazelton tripod boiler.
- 1 80 H. P. Hazelton tripod boiler.
- Also fire box boilers of all sizes from 10 to 50 H. P.

DYNAMOS.

- 1 T-H direct 600-light.
- 1 T-H direct 500-light.
- 1 Westinghouse alternator, 1000-light, 1000-volt.
- 1 60 k.w. Blatterly alternator.
- Also have electric motors of all sizes from 1/2 to 30 H. P.

1 Standard Gauge Rogers American Type Locomotive.

Diameter of cylinder, 15 1/2 in.; stroke, 22 in.; number of drivers, 4; thickness of tires, 1 3/4 in.; fire box, 4 ft. 3 in. by 2 ft. 10 in. by 4 ft. 6 1/2 in.; weight, 30 tons; complete with tender; has been rebuilt from the ground up, and is in first-class condition.

TANKS.

- 2 36x12 in. high.
- 2 30x14 in. high.
- 1 40x10 ft. long.
- 1 open tank, 24 in. by 5 ft. long.
- 2 galv. 24 in. by 7 ft. 8 in. long.
- 1 jacketed galv. 30x30 in. high.
- 3 22 in. by 3 ft. 4 in. high.
- 1 24 in. by 3 ft. 6 in. high.
- 1 galv. jacketed, inside diam., 23 in.; outside, 27 in.; inside depth, 24 in.; height over all, 28 in.
- 3 24 in. by 4 ft. 6 in.
- 1 50-gal. kettle.

- 1 30 in. diam. by 4 ft. long.
- 1 30 in. diam. by 5 ft. 3 in. long.
- 1 42 in. diam. by 12 ft. long.
- 1 30 in. diam. by 8 ft. long.
- 1 42 in. diam. by 8 ft. long.
- 1 10x10 ft., capacity 5870.
- 1 6 ft. 5 in. diam. by 50 ft. long.
- 1 open top, 36 in. diam. by 5 ft. high.
- 1 galv. spiral riveted, open top, 24 in. by 5 ft. high.
- 1 42 in. diam. by 5 ft. 6 in. high.
- 4 6 ft. by 4 ft. 6 in. high.
- 2 5 ft. 6 in. diam. by 5 ft. 3 in. high.
- 1 42 in. diam. by 14 ft. long.
- 1 42 in. diam. by 12 ft. long.
- 1 48 in. diam. by 8 ft. long.
- 1 36 in. diam. by 6 ft. long.
- 1 42 in. diam. by 5 ft. long rendering tank.
- 1 6 ft. wide by 8 ft. long by 20 ft. deep.
- 7 40 in. long.
- 1 48 in. diam. by 6 ft. high.
- 1 42 in. diam. by 14 ft. long.
- 1 42 in. diam. by 5 ft. 6 in. long.
- 2 72 in. diam. by 25 ft. long.
- 2 6 ft. 6 in. diam. by 20 ft. long.

SECOND-HAND VAULT DOORS.

We offer all the vault doors taken from the National Life Building and from the Central Music Hall of Chicago, at present being dismantled. They are in good condition, overhauled, repainted and combinations repaired. Note our prices:

- 11 Diebold doors, 39x84, \$50.00 each.
- 4 Diebold doors, 36x82, 47.50 each.
- 31 Letz doors, 36x73, 37.50 each.
- 1 McNeale & Urban door, 44x84, 47.50
- 7 Ford doors, 39x66, 35.00 each.
- 4 Hall doors, 35x84, 50.00 each.
- 2 Diebold doors, 38x84, 60.00 each.
- 1 Diebold door, 27x78, 75.00

Also 1 burglar-proof vault door, cost originally \$600, price 300.00

MISCELLANEOUS.

- 1 No. 3 Gates Stone Crusher.
- 1 Cold Beam Saw.
- 1 18x35 Iron Planer.
- Large lot of turret lathes.
- 48 in. power lathe.
- 1 Deane double chisel mortiser.
- 1 Other automatic Handle Lathe.
- 18 Ingersoll-Sergeant Rock Drills.
- 10 Air Compressors, all sizes.
- 1 double drum, double cylinder hoisting engine.
- 2 single drum, friction hoisting engine (one portable).
- 2 hoisting engines, with fire box boilers, 15 H. P.
- 2 Raymond ore or stone crushers, with pulverizers.
- 2 electric hoists.
- 2000 ft. new 10-in. wrought-iron pipe.
- 50 tons well casing, from 3 in. to 6 in. (inc.), no threads, at \$40 per ton.
- 1 power hammer, Hotchkiss.
- 1 power forming hammer, with dies.
- 300 tons boiler flues, all sizes and lengths.
- 1 30-ton Rogers locomotive, standard gauge.
- 1 9-ton hydraulic press, capacity 3 ft. by 2 ft. by 12 in.
- 1 Reedy elevator hoisting engine.
- 1 Miller elevator hoisting engine.
- 1 hand chemical engine, 80-gal. tank.
- 2 chemical engines, one with 1 150 gal. tank, other 2 100-gal. tanks.
- 12 columns, 18 in. diam. by 50 ft. long, built of 6-in. channels.
- 1 each Nos. 5, 6, 8 and 10 Sturtevant and Buffalo blowers.
- Large quantity iron pulleys up to 6 ft. diam.
- Brand new wood pulleys up to 10 ft. diam.
- \$20,000 worth brand new short lap belting.
- 1 Russell traction engine, 12 H. P.
- 1 Cooper traction engine, 12 H. P.
- 1 J. I. Case traction engine, 8 H. P.
- 1 20x12x14 duplex pump.
- 1 14x12x10 Crane belt driven pump.
- Emery wheels of all sizes.
- 1 bunching street sweeper, broom 28 in. by 5 ft. long.
- 1 locomotive travelling crane.
- 1 60-ft.
- 100 tons 1 in. to 1 1/2 in. chain.
- 1 9-ton swinging crane.
- 100 tons bolts, threaded with nuts and cast-iron washers, 5/8 in. to 3/4 in. diam. and 18 in. to 4 ft. long.
- 1000 Tents, 7x7.

STEAM ENGINES.

- 1 20" and 36"x48" Tandem Hamilton Corliss, wheel 22"x56" face.
- 1 34 in. x 60 in. Geo. H. Corliss rolling mill engine, right hand wheel, weighing 40 tons, 26 ft. diameter.
- 1 36x72 Wheelock.
- 1 29x72 Wheelock.
- 2 30x60 Harris Corliss right and left hand wheels, 58" face by 20 ft. diameter.
- 1 24"x48" Bates Corliss.
- 1 20"x48" Geo. H. Corliss.
- 1 16"x42" Bates Corliss.
- 1 10"x24" Harris Corliss.
- 1 11"x30" Brown.
- 1 16 1/2 in. x 25 in. x 15 in. cross compound Armstrong & Sims.
- 1 14 in. and 24 in. x 14 in. Westinghouse compound.
- 1 16 in. and 27 in. x 16 in. Westinghouse compound.
- 2 13"x12" Erie Ball.
- 2 12"x12" Ball automatic.
- 2 13 in. x 14 in. Watertown automatic.
- 1 14 in. x 13 in. Armstrong & Sims automatic.
- 1 15 1/2 in. x 16 in. New York safety automatic.
- 3 15 1/2 in. x 15 in. Armstrong & Sims automatic.
- 2 16 in. x 16 in. Ball automatic.
- 1 18 1/2 x 18 in. ideal automatic.

BOILERS.

- 2 375 H. P. Sterling water tubes for 150 lbs.
- 2 200 H. P. National water tubes for 125 lbs.
- 2 175 H. P. Sterling water tubes.
- 3 66"x16" Return Tubulars.
- 2 500 H. P. Hazelton boilers.

CONDENSERS.

- 1 600 H. P. Snow condenser.
- 3 325 H. P. Davidson condensers.

Railway Generators.

- 4 300 K. W. M. P. 4, General Electric.
- 3 100 K. W. M. P. 4, General Electric.
- 2 111 K. W. M. P. 4, Westinghouse.
- 4 60 K. W. Edison bi-polar.

MOTORS.

110, 220, 500-volt motors, from 1 H. P. to 200 H. P.

ALSO
ALTERNATORS,
ARC DYNAMOS,
LAMPS, STREET-CAR, ETC.

ROSSITER, MacGOVERN & CO.

Electrical and Steam Machinery,

141 Broadway, N. Y. Factory, Jersey City, N. J.

SEND FOR NEW CATALOG.

BIG BARGAINS.

General Electric,
three phase, sixty cycle, Inductor Motors
1 15-H. P. 110 volt, speed 900, price \$350.00
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Chicago delivery, ready to ship. Hundreds of other bargains in stock. GUARANTEE ELECTRIC CO.
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Chas. E. Gregory, President.

SPECIAL GAS ENGINE BARGAINS.

50 H. P. Foss, 35 H. P. White & Middleton, 25 H. P. New Era, 28 H. P. Fairbanks-Morse, 15 H. P. Otto, 12 H. P. Otto, 10 H. P. New Era, 2-12 H. P. Fairbanks-Morse, 15 H. P. Chicago, 12 H. P. Chicago, 2-7 H. P. Chicago, 2-3 H. P. Chicago, 2 H. P. Fairbanks-Morse, 2-2 1/2 H. P. Fairbanks-Morse. Engines, all sizes, bought, sold and exchanged. Address
A. H. McDONALD, 36 W. Randolph St., CHICAGO.

Write for list of Second-Hand

Wood-Working Machinery

all in good condition. Engines for Lighting Stations and Trolley Roads our specialty.

H. C. BAKER & CO.,

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FOR SALE.

Lot of Boilers, Engines, Lathes, Planers, Drill-Presses, 1 Large Fire Pump, Steam Pipe, all sizes, and about 500 Tanks of different sizes.

WILLIAM ECKBOLD'S SONS,

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MACHINERY BARGAINS.

1 3-sided Planer and Matcher, Frank, \$175. 1 38" Connell & Dengler Circular Re-saw, \$125. 1 42" 3-roll Egan Sander, \$400. 1 30" Single Drum Sander, \$45. 2 20" Pony Planers, each, \$65. 1 24" Single Surfacter, \$100. 4 Engines. 2 Boilers.
Write for complete list.

Cleveland Belting & Machinery Co.

CLEVELAND, OHIO.

FOR SALE.

IRON TUGBOAT IVANHOE,

length over all 66 feet, beam 15 feet, depth of hold 7 feet; engine 15 x 15 sq.; carries 20 tons coal; tanks will carry her 20 hours; in good running order. Now at Philadelphia, Pa. Apply to

GEORGE W. EGAN, Charleston, S. C.

FOR SALE.

One 8-horse power Upright Engine,
One 9-horse power Upright Boiler.
One 11-horse power Upright Boiler.

E. J. CODD CO.,

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FOR SALE.

We carry a large line of Engines, both new and second-hand, in stock—cross-compound Corliss, tandem-compound Corliss and simple Corliss from 1500 H. P. down to 75 H. P.

Automatic Engines, every size and make—slide and piston-valve Engines from 1000 H. P. down to 5 H. P.

BOILERS—Water tube, horizontal tubular, locomotive Boilers, etc.

HEATERS—Open and closed heaters, all sizes and makes.

MACHINE TOOLS—Lathes, planers, shapers, drill presses, chucks, emery wheels, power punches, etc.

BLOWERS, Exhaust fans, shafting, pulleys, hangers, valves, governors, belting and pipe.

PUMPS—All sizes and makes from 3,000,000 gallons down.

CONDENSERS—Deane, Nordberg, etc.

ELECTRICAL MACHINERY.

1 600-light Edison incandescent dynamo.

2 400-light Edison incandescent dynamo.

1 60-light Thomson-Houston incandescent dynamo.

1 60-light Brush arc.

1 60-light Wood arc.

1 60-light Thomson-Houston incandescent dynamo.

1 30-light Brush dynamo.

ROLLING-MILL MACHINERY.

One 18" muck mill, one 18" sheet-bar mill, one squeezer, iron and wooden jib cranes, traveling cranes, rotary shears, hydraulic pumps, floor-plate, buggies, etc.

STEAM HAMMERS.

4000, 1200, 700 and 400 pounds double-legged Morgan.

275 pounds single-legged Kline.

ICE AND REFRIGERATING PLANT.

One pair of Pictet horizontal Ice Machines, consisting of two Corliss Engines, 16"x36", and ammonia compressor, 10"x36" (ammonia end being new and manufactured by the Vilter Manufacturing Co., Milwaukee, Wis.); capacity of each machine 25 tons ice or 50 tons refrigerating.

The above is a very fine machine, thoroughly overhauled, and has just been sold to us by a Pittsburgh firm, who replaced it with a machine of much larger capacity. Price \$4500 f. o. b. Pittsburgh.

PUMPS—FOR WATER-WORKS.

One Worthington Duplex 25x20x25, rods 3 1/2" diameter, displaces 22,000 gallons per stroke, 110 strokes per minute. Total capacity over 5,000,000 gallons in twenty-four hours. Weight about 40,000 pounds.

WICKES BROS., 45th St. & A. V. Ry., Pittsburgh, Pa.

Main Offices and Works, SAGINAW, MICH.

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Second-Hand Machinery.

- 3 13x5 Blaisdell lathes, elevating rest.
 - 6 13x6 Blaisdell lathes, elevating rest.
 - 2 14x5 Bradford lathes, plain rest.
 - 3 14x6 Flatther lathes, elevating rest.
 - 2 14x6 Ames lathes, elevating rest.
 - 10 15x6 Blaisdell lathes, elevating rest.
 - 2 15x6 Prentice lathes, compound rest.
 - 1 20x8 Putnam lathe, compound rest.
 - 1 22x9 New Haven lathe, compound rest.
 - 1 22x22x5 Fitchburg planer.
 - 1 30x30x10 Putnam planer.
 - 1 36x36x10 Wilson planer, two heads.
 - 1 36x36x16 Hughes & Phillips planer.
 - 3 15" Smith & Mills shapers.
 - 1 26" Lodge & Davis shaper.
 - 8 20" Barnes Rd. base, power-feed drills.
 - 7 22" Barnes back-gear power-feed drills.
 - 2 25" Barnes back-gear power-feed drills.
 - 1 36" Snyder back-gear power-feed drill, G'd revolving table.
 - 1 40" New Haven back-gear power-feed drill.
 - 1 No. 12 Brown & Sharpe miller.
 - 4 No. 3 1/2 Garvin plain back-gear millers.
 - 1 No. 15 Garvin plain back-gear miller.
 - 1 3/4 Cleve. auto. screw machine.
 - 2 1 Cleve. auto. screw machines.
 - 7 2 Cleve. auto. screw machines.
 - 1 5' Niles boring mill, one head.
- Also large lot of other tools. Send for list.

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New and Second-Hand Boilers, Engines, Mining Outfits and General Machinery.

One Complete Stem Fertilizer Plant, including 1 Exhaust Fan, fittings and piping; 90' Chain Belt and Sprocket Wheels; Drier and fittings; Conveyor and belting; 22' Conveyor and fittings; Elevator Sprocket Wheels and Chain Belting; Scientific Attrition Mill, No. 14; Exhaust Fan; 42' Piping; Dust Collector and connections; Reel and fittings; Transmitting Rope Sheave; 1 large Breaker; 1 Combination Breaker; 1 Magnetic Separator; 1 Self Feed Ross Cutter, No. 116; Conveyor and Elevator; 1 30" New American Turbine Wheel, all bearing parts new.

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One second-hand "BERRYMAN" HEATER AND PURIFIER, in perfect condition and guaranteed good as new. Will sell cheap for cash. Address

M. F., care Mfrs. Record,

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Chicago House Wrecking Co.

W. 35th and Iron Sts., CHICAGO.

Write for our Complete Catalogue No. 239.

We are constantly adding to our stock of machinery and supplies, and will be pleased to estimate on your requirements.

FOR SALE.
We own about 2000 tons of
60-lb. STEEL RELAYING RAILS
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sell in lots to suit buyer, and subject to
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for Southern delivery.

We also handle new or second-hand
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ATTENTION!
To Eclipse Machine & Boiler Works
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CHICAGO, ILLS.

ICE MACHINES.
One 75-ton, Vilter.
Two 15-ton machines.
One 10-ton machine.

BOILERS.
Vertical, Tubular and Fire-box, all sizes.

ENGINES.
One 10x15 Buckeye, automatic.
One 8x15 Bay State, slide valve.
Two 10x16, slide valve.
One 8x12, slide valve.

PUMPS.
One 10x7x10 Smith-Valle.
One 4x4x4 Duplex.
One 4x4x4 Dean Duplex.
One No. 5 Knowles.

WOODWORKING MACHINERY.

One 24" Bus Machine Works Planer.
One 30" 3-roll Perry Sander.
One Door Relisher and Wedge Cutter.
One 24" Surfact, incline bed.
One Double Spindle Shaper.

Write for prices before purchasing elsewhere.

I CAN SUPPLY YOUR
WANTS IN
**WOOD-WORKING
MACHINERY.**
SEND FOR LIST OF OVER
150 MACHINES.
G. W. WILLEBRANDS,
50 JEFFERSON AVE.
DETROIT, MICH.

ROLLING MILLS.

We have purchased the entire plant of the Iron
Gate Rolling Mill in Virginia, and will have for
sale some first-class second-hand Mill Machinery,
including Shears, Trains of Rolls, Engines, Boilers,
etc., etc. If you are in the market for any of this
equipment, let us know your wants.

POULTERER & CO.
410 Bullitt Building, PHILADELPHIA, PA.

TRY US FOR AN ENGINE

New or Second Hand.
125 to 250 H. P. Corliss and Compounds.
40 to 50 H. P. High Speed Automatics.
15 to 75 H. P. Slide Valve
400 Light, 110 Volt Dynamo.
Send for our list of others.

PAYNE CO., Elmira, N. Y.

FOR SALE CHEAP.

One 50-H. P. Locomotive Boiler; one each 100-
H. P., 60-H. P., 9-H. P. and 4-H. P. Vertical Boilers,
all of the above as good as new; very cheap; 60-
H. P. Horizontal Tubular and 15 and 25-H. P.
Vertical Boilers, in good condition; one 20-H. P.
Otis Double Cylinder Steam Elevator, all complete
with drum and cab. A fine heavy outfit for fac-
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one 150 H. P. 22"x30" Farquhar (York Pa.) Plain
Slide Valve Engine, fly wheel 10'x30", all com-
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MENGEL'S MACHINERY EXCHANGE,
26 E. Balderston St., near Light,
BALTIMORE, MD.

FOR SALE.

One practically new 20x42 Harris-Corliss En-
gine, price \$1800; one Erie-Ball Engine, 13x12,
perfect order, \$600; one Ideal Engine, 13x12, \$650;
one 12x30 Harris-Corliss Engine, nearly new, run
one year, \$700; one 12x36 Corliss Engine, \$700;
one 26x48 four-valve Engine complete, in good
order, \$1000; one 18x48 four-valve Engine com-
plete, \$800; one 24x48 Automatic Wright Engine,
\$800; two Manning Boilers, 150 H. P. each, good
for 120 lbs. of steam, \$600 each; one Boiler, 66"
diam. 16' long, horizontal tubular, 100 H. P., 3 1/2"
tubes, run two years, all complete, \$350, warrant-
ed up to 100 lbs. steam, as good as new.

F. H. DAVIS & CO.
53 State Street, BOSTON, MASS.

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Can Ice Making Machinery,
INSTALLED BY
YORK MANUFACTURING CO.,
(60 Ton Daily Capacity)

complete with 2 Compound Compressors, 30 ton
each. Distilling Tanks, Receivers, Boilers, all
Piping, Dynamo and Engine for Electric Light-
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cans. About 1500 cans, used 2 years, and can be
bought right, either to be used on premises or
removed. For full particulars, address,

S. T. LUND,
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For Sale at a Bargain.

LOCOMOTIVES—3 standard gauge locomotives
with tenders; 2 with 16x24 cylinders; 1 with
18x24 cylinder. 1 42" gauge H. K. Porter
saddle tank locomotive, cylinder 9x14".
STEAM SHOVELS—1 Osgood with 3 yd. dipper.
ENGINES—1 20x40x30 Wright Corliss tandem
compound engine. 1 18x24x42 Fitchburg tan-
dem compound engine. Also several others of
different styles and horse power.
PUMP—1 Worthington compound duplex steam
pump, No. 20,689; size 12x18 1/2 x10 1/2 x10.
HOISTERS—1 pair of 14x24 link motion mine
hoisting engines. Also several others.
The above can all be seen at our yards in
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GRANT & WILLIAMS,
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**FOR SALE OR EXCHANGE—BOILERS,
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double cylinder, single drum Lidgerwood Hois-
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Slide Valve and Upright Engines, Single and
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Goods constantly listed with us. All goods guar-
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H. MOORE CO., 2d & Sycamore Sts., Milwaukee, Wis.
Steam Fitting and Machine Shop.

FOR SALE.

Bar Mill, complete with muck and finishing rolls.
12"x16"x18" Cross Compound Boiler Engine, in
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Also Buy and Sell Relaying Rails, Locomotives
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FOR SALE.

STEAM SHOVELS.
3 Marion, Model "G" second hand, 2 1/2-yd.
bucket, friction feed.
1 Marion, Model "G" second-hand, 2 1/2-yd.
bucket, crowding engines, armor clad.
4 Marion, Style "A" second-hand, 1 1/2 yd.
bucket, friction feed.
1 Marion, Model "K" second-hand, 2 1/2-yd.
bucket, crowding engines, armor clad.
1 Marion, Style "B" second-hand, 1 1/2-yd.
bucket, friction feed.
1 Bucyrus, 55-ton second-hand, 1 1/2-yd bucket,
friction feed.
2 Bucyrus, 45-ton second-hand, 1 1/2-yd bucket,
friction feed.
1 Osgood Shovel.
LOCOMOTIVES.
4 9x14, 36-inch gage saddle tank. 2 7x12, 36-
inch gage saddle tank. 3 6x10, 36-inch gage
saddle tank. 1 9x16, 36-inch gage Mogul.
2 11x16, 36-inch gage Mogul.
1 8x12, stand, gage saddle tank (Porter).
3 10x24, stand, gage, 6-whl. con'ted switchers.
3 17x24, stand, gage, 4-whl. con'ted switchers.
20 standard d gage, 8-wheel road engines.
10 standard gage, 8 driver, 2-wheel truck,
Consolidated.
21 stand gage, 6-d iver, 2-whl. truck, Mogul.
1 15x22, stand, gage, 6-driver, switch engine.

J. R. PATTON & CO., Ferguson Block, Pittsburg, Pa.

Engine Bargains

100 h. p. 12x24 Buckeye Automatic.
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150 h. p. 16x42 Fraser & Chalmers Corliss.
150 h. p. 14x30 Cummer 4 valve Automatic.
250 h. p. 12x22x18 Payne Tandem Cpd. Auto.
65 h. p. 12x24 Cooper Slide Valve.
50 h. p. 12x18 Slide Valve.
14x7x10 Smith-Valle Fire Pump.
200 h. p. Baragwanath Heater.
45 h. p. 11 1/2 x18 Slide Valve.
60x16 ft. Tubular Boiler.
200 h. p. Stillwell-Bierce Heater.

The above are all in first-class condition and
ready for shipment.

A. L. DAWSON & CO.,
27-31 W. Washington St., CHICAGO, ILL.

Second-Hand Machinery.

All in good shape; replaced by more powerful
machinery.
1 10"x16" Engine, slide valve; 1 Saw Mill with
top saw; 2 Lumber Trucks, capacity 30,000. Built
by Hellman Machine Works, Evansville, Ind.
1 13"x20 Engine, automatic. Built by Payne &
Son, Elmira, N. Y. 1 40 H. P. Boiler, locomotive
type. Built by Chas. Pfeiffer, Chicago, Ill.
1 set of Deane Hub Machinery, consisting of
1 automatic lathe, 2 boring machines, 1 mortising
machine (automatic), 1 block cut off saw, 2 sets
of bits.

1 Axle lathe. Built by Hoyt Bros Mfg. Co.,
Aurora, Ill. 1 Skein Setting Machine. Built by
Union Foundry & Machine Works, Mansfield, O.
1 Fellow Saw. Built by Deane Machine Works,
Deane, O. 1 Wheel Tenoning Machine (old
style). Built by J. A. Fay & Egan Co., Cincinnati,
O. 1 heavy 24" Planer & Matcher. Made by J.
A. Fay & Egan Co., Cincinnati, O. 1 Fellow Bor-
ing Machine. Made by J. A. Fay & Egan Co.,
Cincinnati, O. 1 wood frame Edging Saw, 16".
SOLID IRON PULLEYS—1 30" diam., 10" face,
2 15-16 hole. 1 30" diam., 7" face, 2 3-16 hole.
1 26" diam., 10" face, 2 3-16 hole. 1 24" diam., 13"
face, 2 3-16 hole. 1 26" diam., 7" face, 2 3-16 hole.
1 21" diam., 8" face, 2 3-16 hole.
WOOD SPLIT PULLEYS—1 30" diam., 6" face,
2 7-16 hole. 1 24" diam., 20" face, 2 15-16 hole.

Address **FLORENCE WAGON WORKS,**
FLORENCE, ALA.

Second-Hand Machinery

For Immediate Delivery
at Bargain Prices.

1 T. H. 110 volt Generator, 50 K. W., perfect
order, \$150.00.

1 T. H. 110 volt Generator, 30 K. W., perfect
order, \$270.00.

1 Buffalo Steam Pump Co's Compound Duplex
Pump, size 12 and 18 1/2 by 10 1/2 by 12, perfect
order, \$600.00.

Corliss Automatic Slide Valve Engines Boilers,
Pumps, Heaters, Iron and Woodworking Tools.

WISCONSIN MACHINERY CO.

125-127 W. Water Street, Milwaukee, Wis.

ENGINES, BOILERS, DYNAMOS, &c., FOR SALE.

In first-class condition at Lowest Prices
in the market.

ENGINES—150 horse Westinghouse Standard;
100 horse Westinghouse Compound; 50 horse
Dick & Church Phoenix.

BOILERS—3 100 horse h.t., 100 lbs. pressure; 2 80
horse h.t., 90 lbs. pressure; 1 300 horse water
tube.

GAS ENGINES—2 15 horse Otto, all complete.

HEATER—1 Berryman, about 700 h. p.

DYNAMOS—30 light, 60 light, 100 light, 125 light,
150 light, 400 light, 700 light. Also several arc
dynamos. All dynamos of standard makes
and voltage, and complete.

GENERATORS—100 K.W., 550 volts, multipolar;
25 K.W., 550 volts; 60 K.W., 550 volts.

ALTERNATORS—600 light Westinghouse; 2 1400
light Westinghouse. Also some larger ones.

The above is a partial list only of what we have
on hand. Write us for anything you want and
get our prices. Also have a large line of Pulleys,
Belting, Hangers and General Factory Supplies,
Pipe, &c.

Everything all ready to put right into service.

American Electric Supply & Mfg. Co.

27 Thames Street, New York City.

FOR SALE.

One 20"x48" Engine.
One 18"x26" Engine.
One 12"x20" Engine.
One 10"x14" Engine.
One 60"x18" Tubular Boiler.
One 60"x16" Tubular Boiler.
One Wilkins Steam Gang.
Two Band Mills.

ROBERT EASTON, Williamsport, Pa.

ENGINE AND BOILER.

P. H. MANGUM, Jr., Wake Forest, N. C., wants
second-hand Engine and boiler, not less than 12
h. p. and not over 30 h. p. Horizontal Boiler
preferred.

PARTIAL LIST OF SECOND-HAND MACHINERY.

2 120-h. p. 60"x18" Tubular Boilers.
1 80-h. p. 60"x18" " "
1 60-h. p. 60"x14" " "
1 100-h. p. 13x12 Ball Automatic Engine.
2 12x12x10 Worthington Duplex Pumps.
2 34 Exhaust Fans.
1 60-h. p. 10x12 N. Y. Safety Power Automatic
Engine.
1 80-h. p. 12x20 Inker Automatic Engine.
1 13 1/2 x10x18 Smith-Valle Single Pump.
1 18-in. Centrifugal Wrecking Pump with
Direct Connected Engine.
Also a large number of Smaller Engines,
Boilers, Pumps, Heaters, etc.

RAINIER & WILLIAMS,
63 S. Canal St., CHICAGO, ILL.

FOR QUICK DELIVERY.

18", 22", 24", 26", 28", 30",
32" and 36" Lathes. Any length.

SCHUMACHER & BOYE,
Cincinnati, O.

IRON-WORKING MACHINERY

Lathes.

1 44"x24"; 1 22"x10"; 2 20"x8"; 1 18"x16"; 3
18"x6"; 1 16"x8"; 1 19"x8"; 1 20"x8"; 1 24"
x12"; 1 24"x17 1/2"; 1 28"x10'-4"; 1 36"x24".

Planers.

1 24"x6"; 1 30"x30"x7'-6".

Shapers.

1 24"; 1 18"; 1 16".

Bolt and Pipe Cutters.

1 4"; 2 2"; one double spindle, one single
spindle.

Drills.

1 44"; 1 33"; 1 5 1/2"; 1 36". Some of these
are new, others second hand, but all in
good condition.

CARLIN MACHINERY & SUPPLY CO.,
Lacock and Sandusky Sts., Allegheny, Pa.

FOR SALE CHEAP.

One Marine Boiler, 180 H. P. One Erie City Box
Bed Engine, 50 H. P. Two Locomotive Boilers,
30 H. P. One 6"x15" Rock Crusher. One ten
stamp Fraser & Chalmers Mill. Three Concentra-
tors, one Golden Gate, two Embury. One Free
Vanner. One No. 10 Cameron Pump. One 24"
Buhr Mill. One Electric Separator. One Fair-
banks Scale, No. 8, 2,000 lbs. capacity. One Pul-
someter Pump, No. 4.
All of the above in good a d first class order.
Will make especially low prices to move. Write
for particulars.

J. B. KENDALL, Washington, D. C.

FOR SALE.

One 14 in. x30 in. R. H. new Corliss Engine (our
own build) with 10 ft. diam. wheel 17 in. face in
halves; complete, quick delivery and low price.
Address

KEYSTONE ENGINE & MACHINE WORKS,
5th and Buttonwood Sts., Philadelphia.

PROMPT DELIVERY.

1 60"x20" Engine Lathes
1 60"x60"x20" Planer, 2 heads.
2 24"x48" Wheelock Engines.
2 30 H. P. Ball Engine.
1 Dunham 1 1/2" Nut Machine.
1 Hot Nut Machine, 1".

GEO. H. BOWLER,
507-508 Williamson Bldg., CLEVELAND, O.

**FOR SALE at Attractive Price,
6,000 ft. of 12-in. Cast Iron
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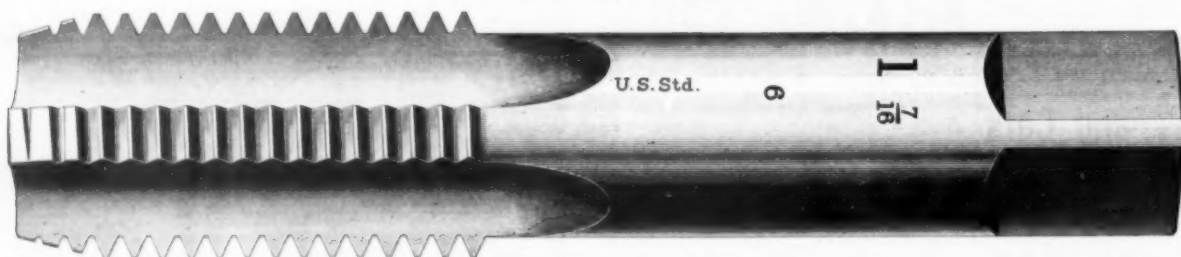
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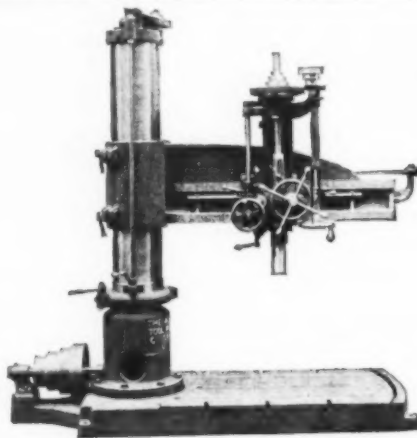
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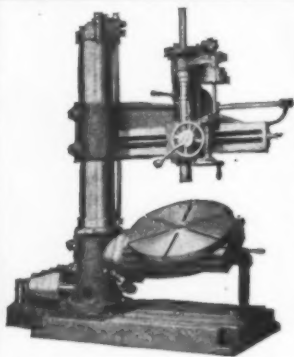
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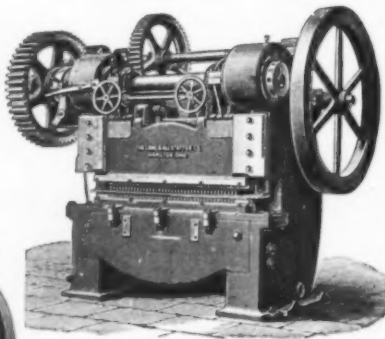
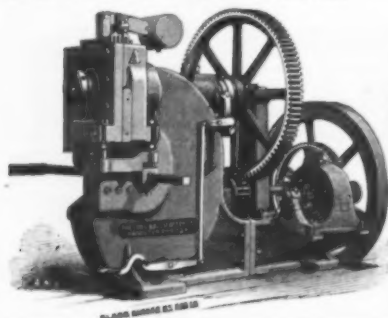
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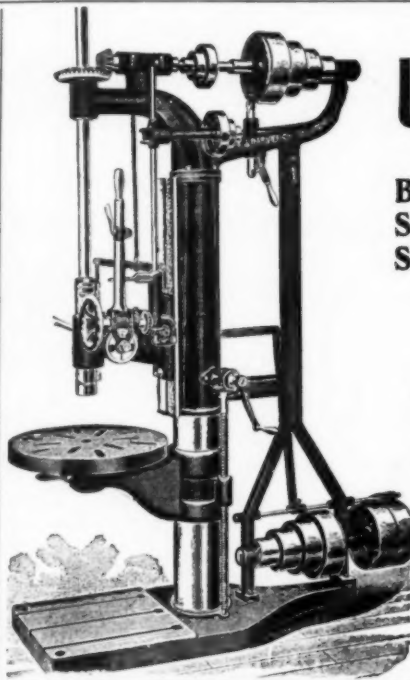
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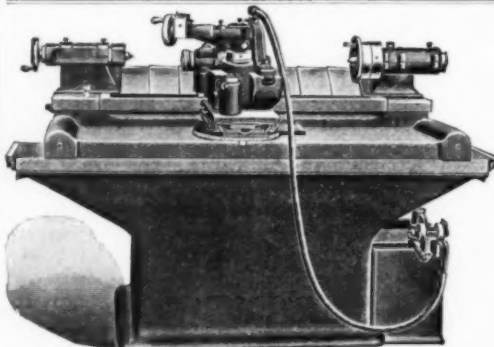
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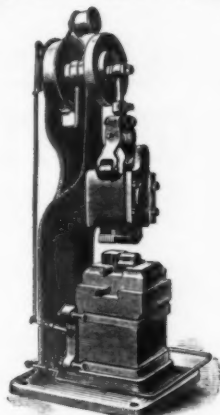
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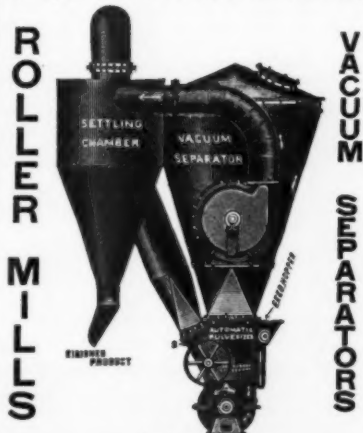
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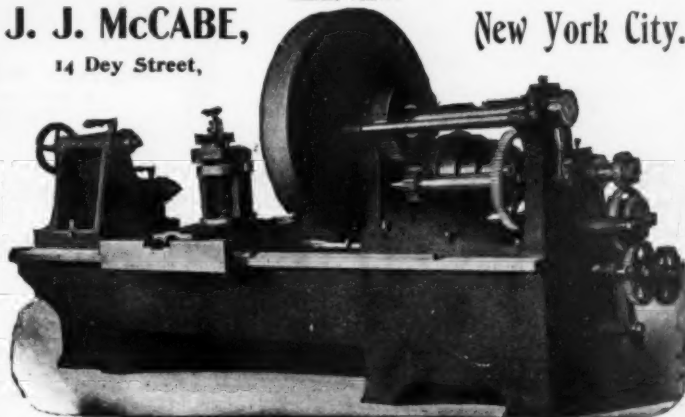
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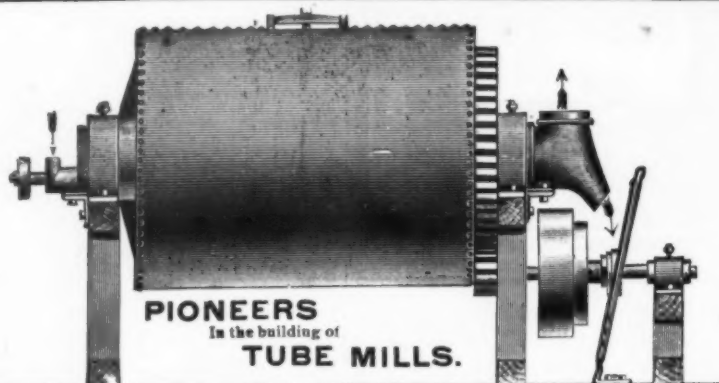
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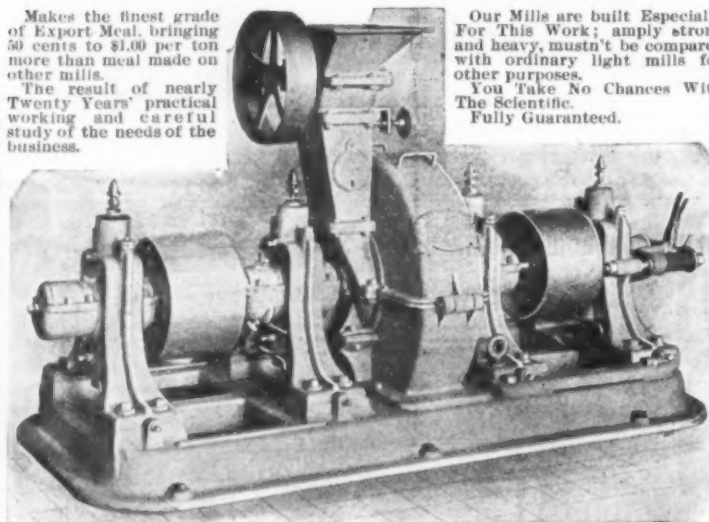
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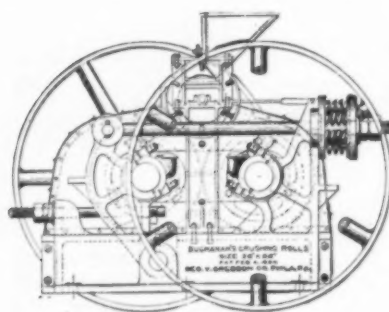
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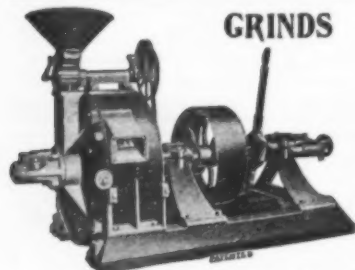
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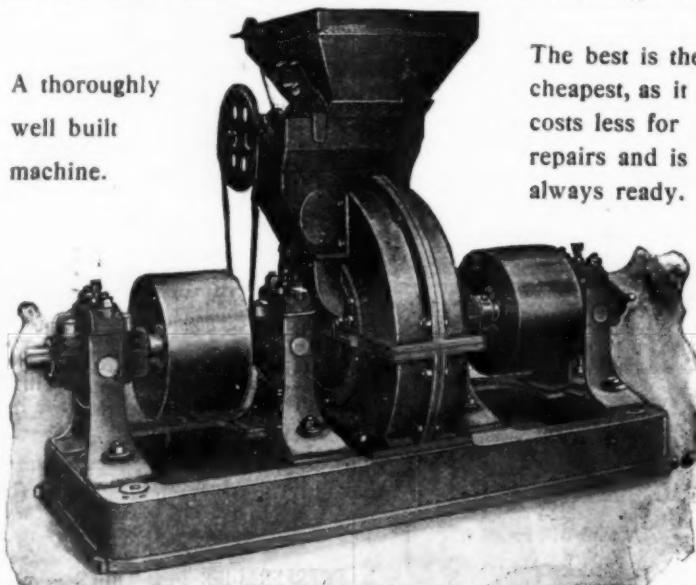
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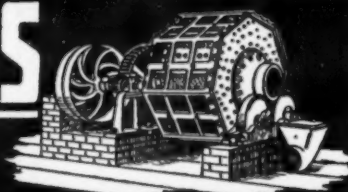
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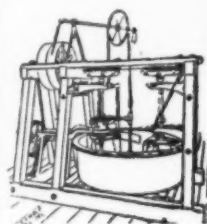
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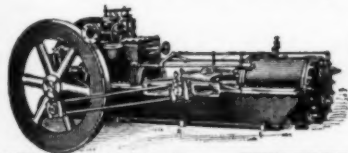
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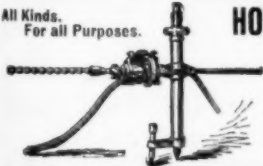
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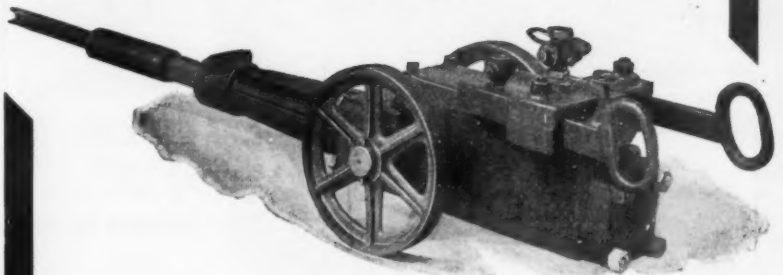
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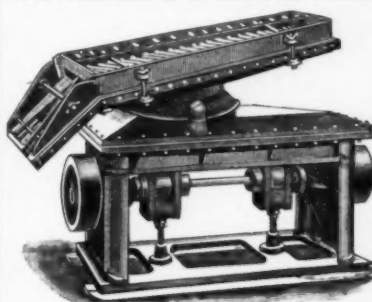
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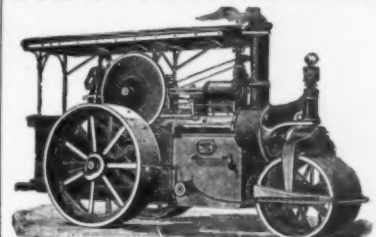
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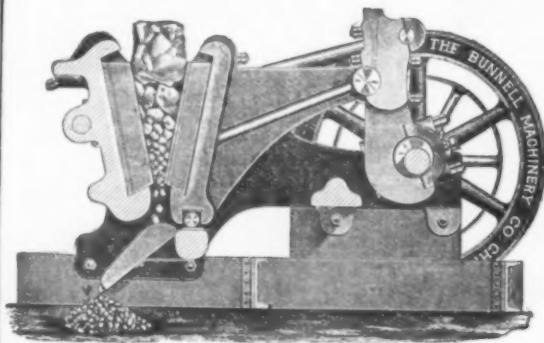
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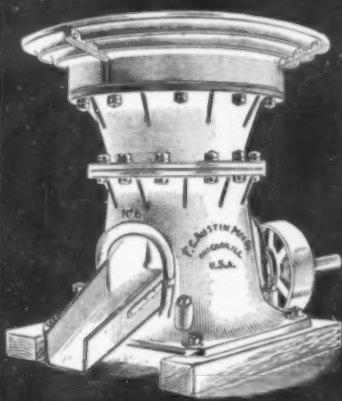


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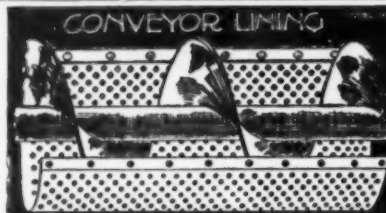
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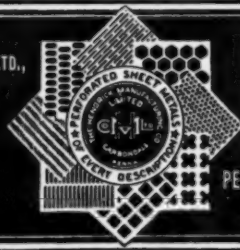
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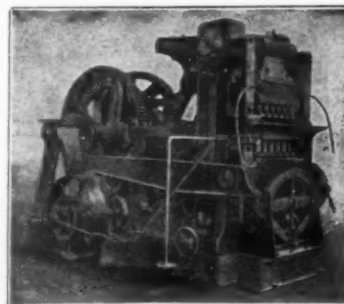
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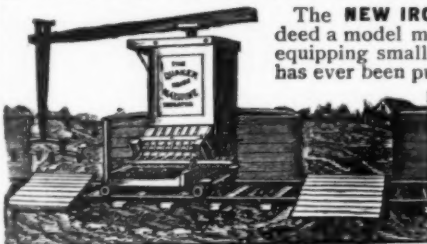
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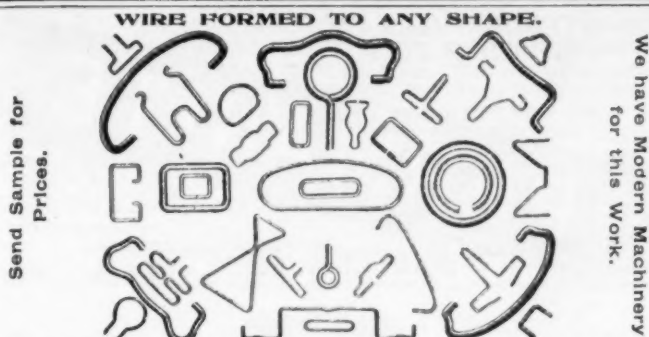
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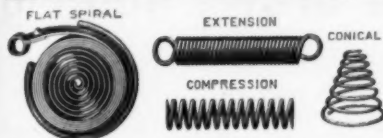


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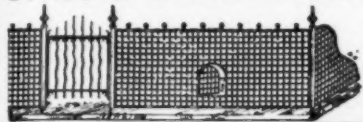
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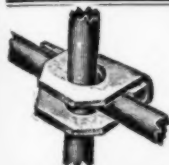
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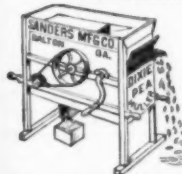
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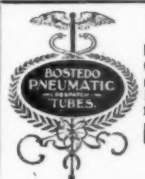
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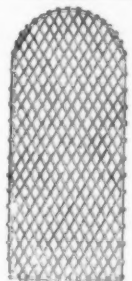
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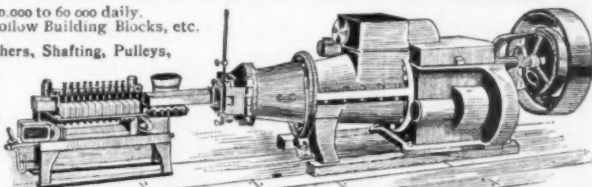
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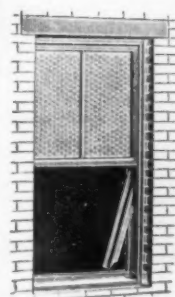
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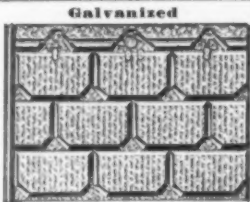
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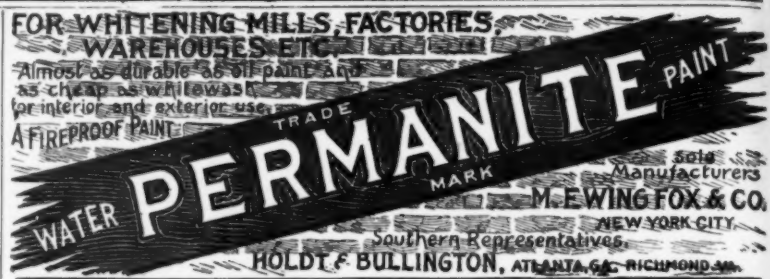
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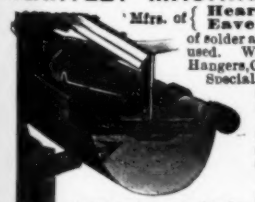
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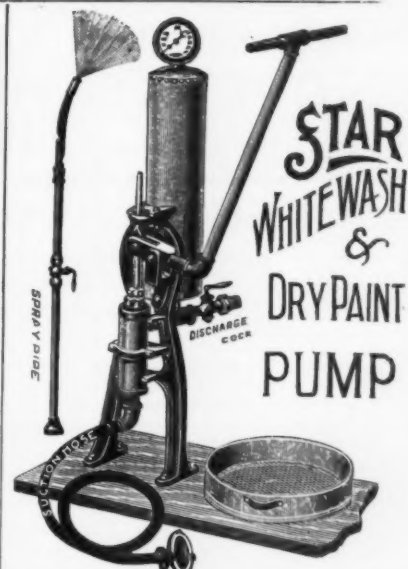
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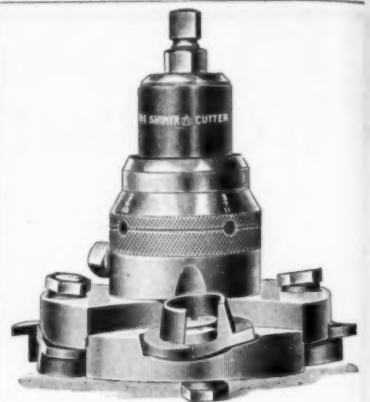
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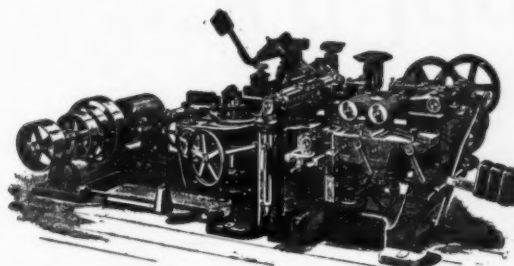
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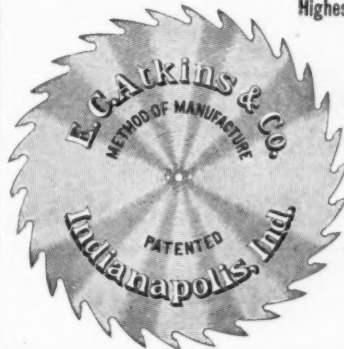
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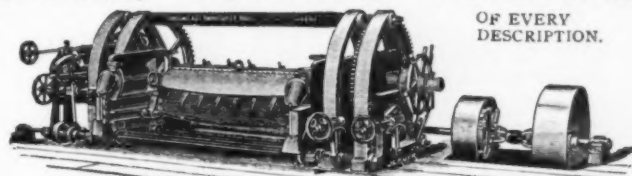
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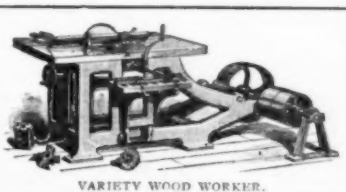
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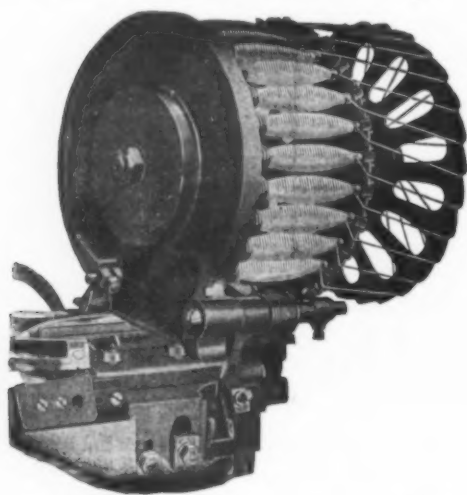
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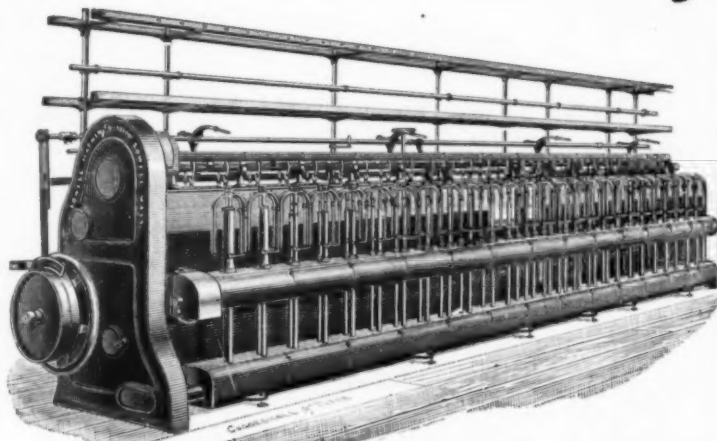
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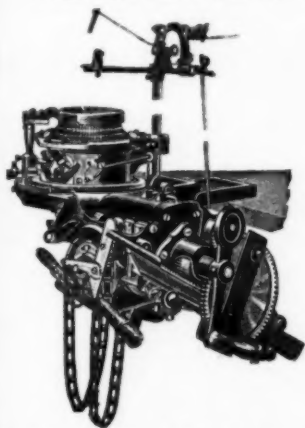
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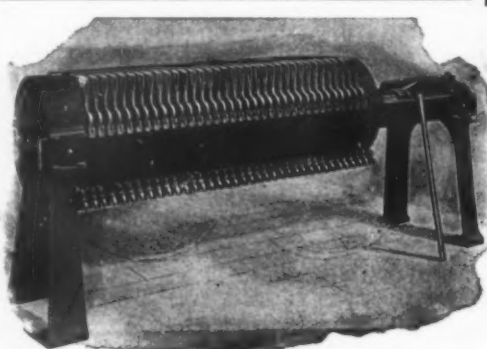
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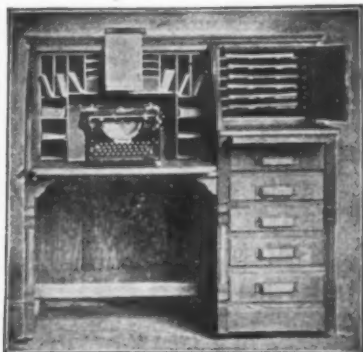
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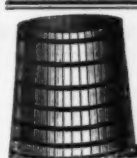
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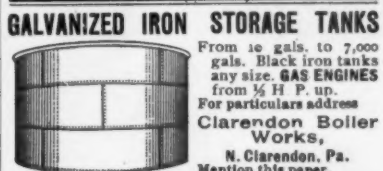
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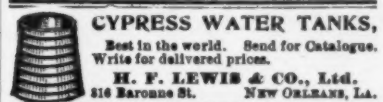

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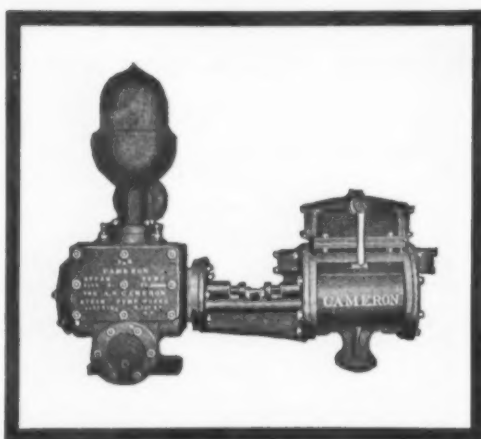
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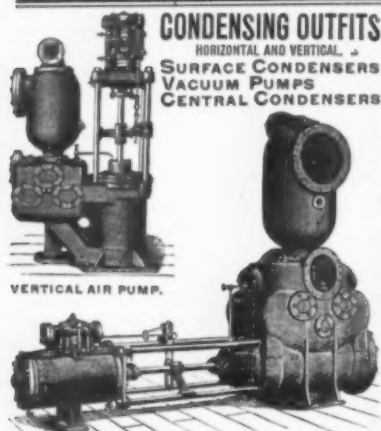
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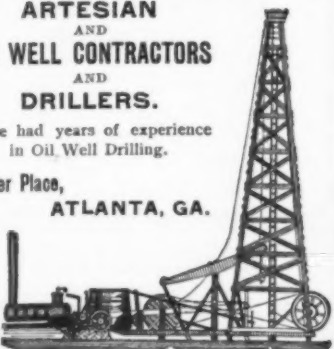
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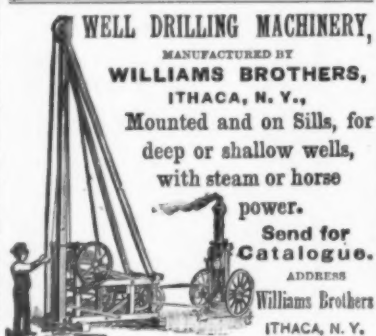


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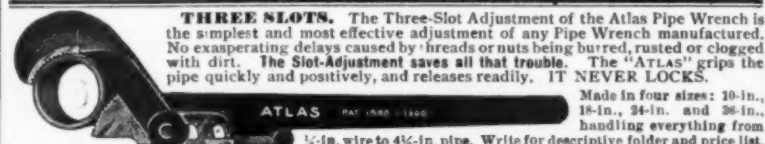
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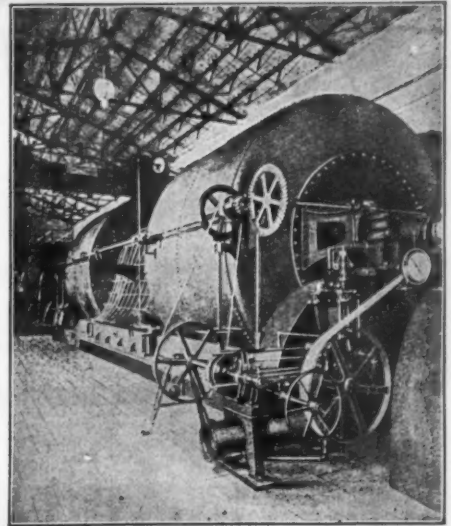
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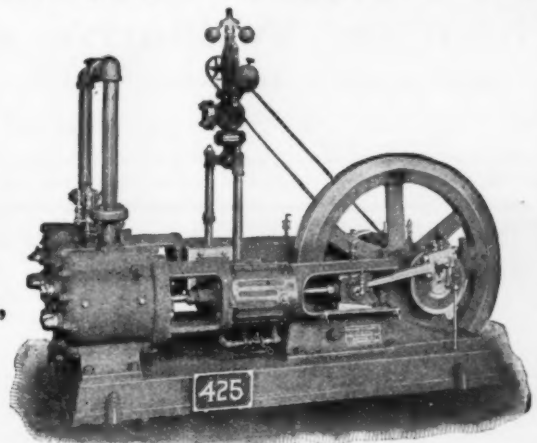
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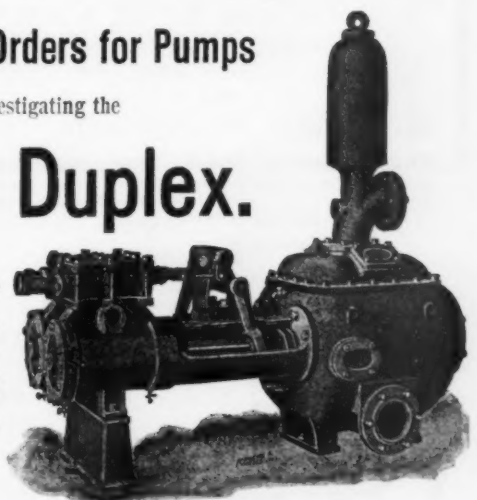
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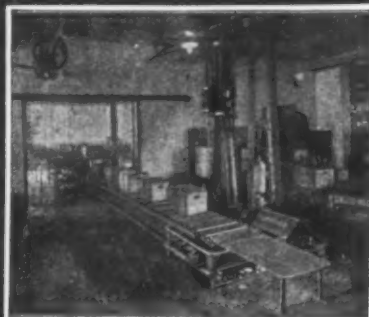
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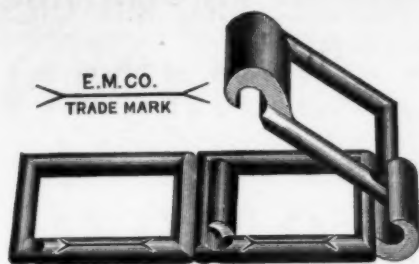
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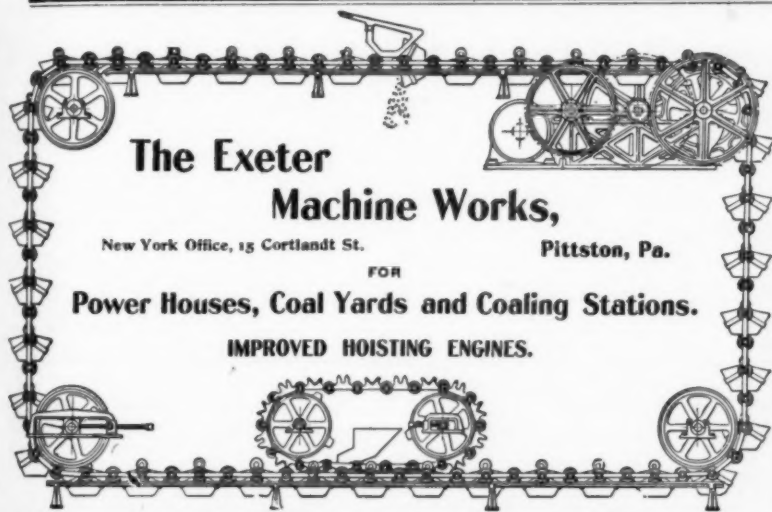
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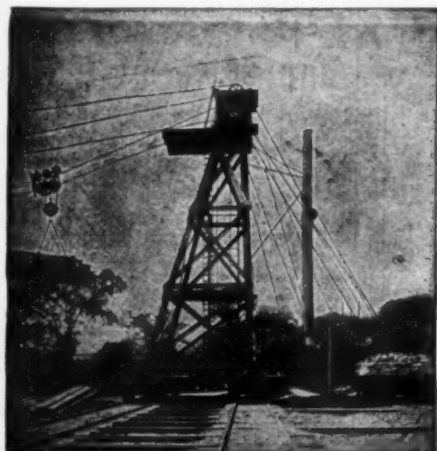
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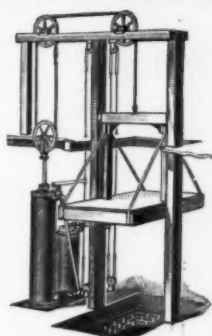
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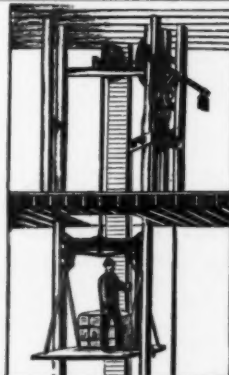
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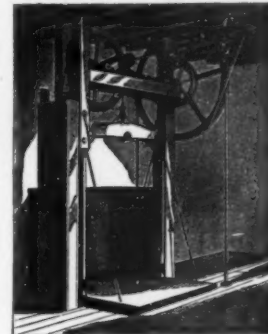
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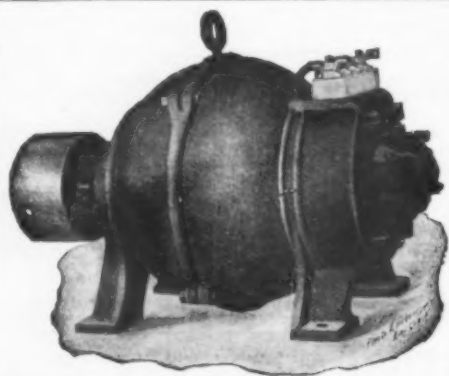
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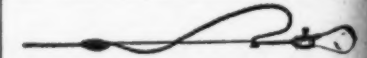
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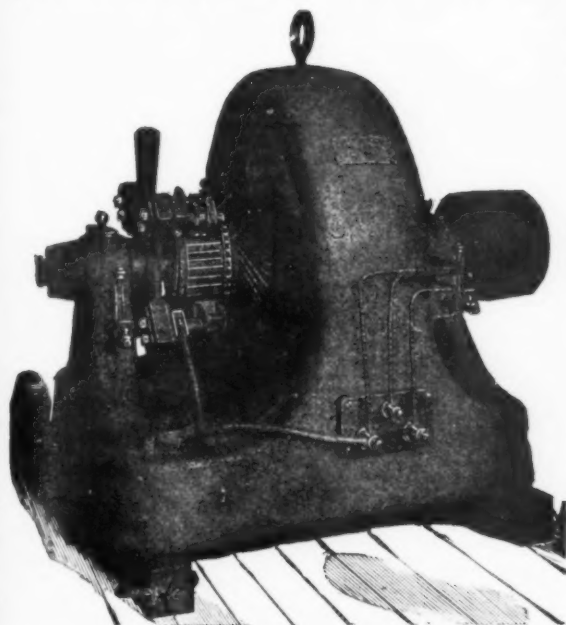
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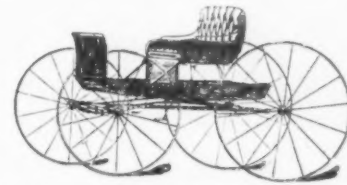
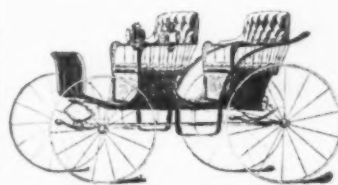
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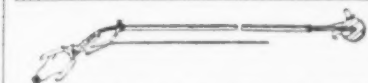
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